

No. 1715



DESCRIPTION AND DIRECTIONS FOR
USE AND CARE OF

CAVALRY EQUIPMENT

MODEL OF 1912

(SEVENTEEN PLATES)

OCTOBER 5, 1914



WASHINGTON
GOVERNMENT PRINTING OFFICE

1918

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WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ORDNANCE,
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This manual is published for the information and government of the Regular Army and Organized Militia of the United States.

By order of the Secretary of War:

WILLIAM CROZIER,
Brigadier General, Chief of Ordnance.

(3)

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DESCRIPTION AND DIRECTIONS FOR USE AND CARE OF CAVALRY EQUIPMENT, MODEL OF 1912.

Cavalry Bridle.

(Plate 1.)

This article of equipment is a combination of a curb bridle, bridoon bridle, and halter, and is intended to serve as a bridle both in garrison and in the field. In the latter instance it is also used as a halter. It is not intended to be used as a stable halter in garrison, but should be kept by the trooper to whom issued on the peg with the rest of his equipment. A stable halter is provided for stable and corral use in garrison; and the bridle can thus always be kept presentable.

The bridle consists of the following essential parts:

A *cheek piece*, which is a plain strap of $9\frac{1}{2}$ to $10\frac{1}{2}$ ounce bridle leather 1 inch wide and 78 inches long. This strap passes twice over the head of the horse, thus forming a long loop on each side of the head. At the bottom point of each of these loops the noseband is suspended from the cheek piece by means of the noseband slides. The cheek piece is adjusted to length by means of a buckle and six holes on the near side of the bridle just below the brow band.

A *brow band*, of medium harness leather 18 inches long and $1\frac{3}{8}$ inches wide in the middle and tapering to $\frac{7}{8}$ inch wide at each end, where loops $2\frac{1}{4}$ inches long are stitched to encircle the cheek piece, bridoon crown piece, and throat latch on each side of the head. Onto these loops are slipped $\frac{7}{8}$ -inch brass-wire loops which separate the cheek piece from the throat latch and bridoon crown piece.

The *throat latch*, a plain strap of medium harness leather 1 inch wide and $43\frac{1}{2}$ inches long, passes up through the loops in the brow band in rear of the cheek piece and directly over the bridoon crown piece and down under the throat of the horse, passing through the upper loop in the throat strap, and ending in a common buckle on the near side, where six holes are punched for adjustment.

A *nose band*, of medium harness leather 41 inches long and $1\frac{1}{8}$ inches wide, made into an endless band by a $5\frac{1}{2}$ -inch stitched lap. This band is suspended from the cheek piece on each side by passing through the noseband slide, and in the rear it passes twice through the $2\frac{3}{16}$ -inch small iron ring in the lower end of the throat

strap and once through the similar ring for attaching the halter tie rope.

A *throat strap*, of medium harness leather $\frac{7}{8}$ inch wide, about 18 inches long, folded upon itself twice so as to form a billet 6 inches long of three thicknesses sewed together, with 1-inch loop for the throat latch at its upper end and a $2\frac{3}{16}$ -inch small iron ring at its lower end, which ring passes over the looped rear end of the noseband.

A *bridoon crown piece*, a plain strap of collar leather, 7 to 8 ounces, $25\frac{1}{8}$ inches long and $\frac{3}{4}$ inch wide, with five holes at each end. This strap passes up through the rear loops in the brow band and lays directly under the throat latch, to which it is stitched for a distance of 1 inch on the top to secure it in position.

Two bridoon straps, of 6 to 7 ounce collar leather $\frac{3}{4}$ inch wide and $13\frac{5}{8}$ inches long. A buckle in the upper end of each strap secures it to the bridoon crown piece on either side. The lower end of each strap passes through the ring of the bridoon bit and back through two standing loops (sewed to the strap above the bit) and over a stud hook on the side next to the animal.

Two bit straps, each a plain strap of 7 to 8 ounce collar leather $\frac{5}{8}$ inch wide, $10\frac{3}{8}$ inches long, with a hole in the center and one $\frac{9}{16}$ inch from each end. This strap carries at its center the bit strap retainer (a double loop with a stud hook in the center bar). The two ends of the strap double back and fasten over the stud hook, so that the strap when assembled forms two loops, the upper one carrying a $\frac{5}{8}$ -inch snap hook and the lower loop passing through the upper loop in the curb bit.

The snap hook engages in the lower loop of the cheek slide. These slides, one on either side of the bridle, are adjustable on the cheek piece by 6 holes in the cheek piece.

The *halter tie rope* is a plain manila rope $\frac{1}{2}$ inch in diameter and 100 inches long; at one end an eye splice is formed by means of which a bronze swivel bolt snap is attached, which snaps into the $2\frac{3}{16}$ -inch small iron ring on the rear of the noseband.

The *bridoon reins* are of 7 to 8 ounce collar leather $\frac{5}{8}$ inch wide and cut $57\frac{1}{4}$ inches long. Three and one-fourth inches from the bit ends of the reins a $4\frac{1}{2}$ -inch lap is stitched onto the inside (flesh side) of the reins. Approximately midway on this reinforcing piece is a stud hook pointing to the rear, and on each side of the hook is a standing loop. Two and one-fourth inches from the extreme bit end of the reins a hole with slit is punched, so that to assemble the rein to the bit ring the end is passed through the ring under the first standing loop, the stud hook passed through the hole in the rein, and the end carried on under the rear standing loop; the reinforcing

piece above described is sufficiently long to give two thicknesses of leather where it loops through the bit ring.

The rear ends of the bridoon reins are connected by a $\frac{5}{8}$ -inch buckle.

The *curb reins* are of 7 to 8 ounce collar leather $\frac{3}{4}$ inch wide and cut $55\frac{1}{4}$ inches long. The method of attachment at the bit ring is the same as for the bridoon reins. The reins are stitched together at the bight with a $1\frac{1}{2}$ -inch lap, with rounded ends skived down. The reins assembled carry a sliding loop $\frac{3}{8}$ inch wide just in front of the bight.

The *bridoon* is the model of 1909 bit, which has been revised to use a $2\frac{1}{4}$ -inch ring in place of a 2-inch, and is now made of 27 per cent nickel steel.

The *curb bit* is the present model of 1909 bit of 27 per cent nickel steel.

The *curb chain* is model of 1912 and differs from former models in that it is a single twist chain composed of 15 links of 27 per cent nickel steel $\frac{5}{32}$ -inch wire. When issued with bit the off curb hook is brazed together, thus making the chain a part of the complete bit.

The *lip thong* is of soft rawhide, medium weight, 18 inches wide by $14\frac{1}{4}$ inches long.

To fit the bridle, unsnap, unbuckle, and remove all bit straps, and first adjust the halter so that the noseband will stand at the desired height. To do this unbuckle the cheek strap, and then lengthen or shorten cheek strap and distribute the gain or loss on both sides of headstall, so that the cheek slides that support bit straps will stand at the same level. Punch new holes, if necessary, in noseband for the noseband slides. Wet the leather in the vicinity of the cheek loop thoroughly and shape snugly by pressure or blows; the cheek will then remain smoothly in position. Once the halter is adjusted to a particular horse, do not change it from that adjustment for the bits, but adjust them to proper height in mouth by means of the adjustment provided for the cheek slides. The bridoon is readily adjusted by its buckles. Always remove bit and bridoon before taking off halter. Never try to put on halter with bits attached to it. To secure halter tie, pass end around neck loosely, lay a double turn of about 6 inches in length along standing part, loop to the front, and free end to the rear, wind the free end three or four times about both loop and standing part, thrust free end through loop and draw tight.

In case it becomes necessary to replace the snap hook, or the rope itself, proceed as follows: Pass the end of the rope through the eye of the snap, unravel about 7 inches of the end, place the eye of the snap close to the unraveled strands, open a strand on the standing portion of rope near to eye, pass middle strand, No. 2, of unraveled portion through opening on standing part and draw tight. (Fig. 1, Pl. I.)

Next untwist the strand at the left of the middle one, pass No. 1 strand through the opening and draw snug. Now turn the rope over, untwist the remaining strands, pass No. 3 strand through opening, and draw snug. (Fig. 2.) Now draw the strands more snugly against the standing part of the rope and, commencing with either one of the three strands, pass each one in turn, as before, from right to left, between its mates, following the twist of the rope, until the operation has been performed three times. (Fig. 3.) Now place the rope on the floor and roll it under foot until the splice is smooth, then neatly trim away useless ends.

To still further finish this splice, wrap it throughout its length toward the snap with shoe thread, well waxed, then return to starting point by passing needle and thread between strands at each one-half inch, and finally secure all ends snugly. If preferred, this eye splice may be made up without passing it through the eye of the snap bolt. After completion, pass the free end of the tie rope through the snap hook eye and then through the eye splice and draw up snugly. The tie rope shown in the cut of the bridle is assembled in this way:

To finish free end of rope tie, use the Daly wrap¹ as follows: Untwist the strands for about 7 inches, then take a single cord of each strand and untwist to the same point. (Fig. 4.) Now take No. 1 cord from the left, and lay it across the nearer side of the rope just below the junction of the untwisted portions, and lay No. 2 cord over No. 1 cord. (Fig. 5.) Now carry No. 2 cord well to the farther side of the rope out of the way.

Bring No. 3 cord over No. 2 cord, pass No. 3 cord under No. 1 cord, between it and the rope near the point where it leaves the rope, and draw all three cords snugly. (Fig. 6.) This operation leaves the strands standing upward and the cords downward, the strands thus being secured in the center. Now pass each cord from right to left between the twisted strands of the rope itself until each has been so passed through for three times, precisely as was done with the unraveled strands in making the snap splice above. Finish in a manner similar to that there described, and cut off the unraveled strands about $\frac{1}{2}$ inch above grasp of cord. (Fig. 7.)

This wrapping may be still further finished by waxed thread as described under the snap splice.

To tie the horse to a hitching post or rail, never tie by the reins, but slip the loop of the rope tie over the horse's head, pass the doubled end of loop through the ring or once or more times around the rail; unsnap the hook and pass it through the free end of the loop, pulling taut; then snap hook to halter ring; adjust the reins so that they

¹ So named after Chief Packer Henry W. Daly, who first introduced its detailed description into military works.

will not catch on the post or be trampled under foot. To untie, reverse the process.

No link is provided for this bridle. To secure horses of Nos. 1 and 2 for fighting on foot, tie them by the bridoon reins, each to the halter ring of the horse on its left.

Small detachments of 2 to 8 men, and larger bodies at times, can secure their horses advantageously by "coupling" them, as this eliminates the necessity of horse holders. To couple the horses each set of two men dismount and bring their horses close together, near side to near side, head to croup. Then each man makes fast the bridoon reins of the other to the attaching strap of the saber carrier as tight as possible with a slip knot. The horses can then only circle round.

The Service Saddle.

(Plate II.)

The saddle consists of the following essential parts:

A *frame* of pressed steel $\frac{1}{16}$ inch thick. This frame has pressed into it three ribs running longitudinally around the frame for stiffness.

Two *pommel hinges*, one right, one left, the upper half of each hinge being of bronze riveted to the steel frame. The lower half of each hinge, of cast aluminum, is bolted to the wooden side bars.

Two *pommel hinges*, one right, one left, the upper half of each riveted to the steel frame and the lower half bolted to the wooden side bars. These hinges are so shaped and located that the axis of the pommel and cantle hinge lies in a straight line on each side of the saddle, thus allowing free movement of the side bars around this line as an axis.

Two *stirrup-strap loops*, each suspended from the frame by a steel strap which is riveted to the frame. The loops are shown clearly in Plate II and are provided at the rear ends with a safety loop for holding the stirrup strap in the stirrup-strap loop, but which will allow the strap to slip out in case of a violent pull to the rear, as in case of a fall in which the rider's foot might catch in the stirrup to drag him. The safety loop is convenient also for removing the stirrup straps for cleaning, etc. This loop should be kept clean and oiled frequently.

Two *rear girth strap loops* riveted rigidly to the frame in rear of the stirrup strap loop.

Two *forward girth strap loops*, suspended from the forward end of the frame by a metal strap riveted to the frame.

Two *cantle loops*, one right and one left, for rifle carrier, boot and saber carrier. These are bronze loops riveted to the frame just outside of the cantle hinges.

Two *wooden side bars*, one right and one left, shaped on the under side to fit the horse's back. These are of basswood, natural finish and varnished.

One *cantle roll support*, a casting of aluminum riveted to the cantle of frame and extending out to the rear having down through it a slot for roll strap.

A *ground seat of sole leather* formed in a press to fit the metal frame accurately and riveted to same.

Two *pieces of straining webbing*, passing under the sole leather ground seat from cantle to pommel, securely riveted to the steel frame and stretched so as to support the leather seat.

A *seat*, of 6 to 7 ounces collar leather, embossed to imitate pigskin, pressed in a die to the exact shape of the ground seat. This seat passes up over the aluminum cantle roll support and around the cantle is stitched to a facing leather underneath the steel frame and forward from the cantle is stitched to the jockeys by a welted seam, the jockeys being of similar material to the seat. The seat is also stitched to the under facing of the pommel.

Two *skirts*, one right, one left, cut to shape, as shown in Plate II, and embossed to imitate pigskin, made of medium harness leather riveted to the steel saddle frame. The skirt has a loop riveted to it near its upper forward corner, through which passes a strap of the pommel pocket, thus holding the latter down in its proper position.

The *side bar pads* are of olive-drab felt, about $\frac{1}{2}$ -inch thick. These pads are cut to the shape of the under sides of the side bars. A piece of light collar leather is stitched to the forward and rear ends of the pads forming pockets, these pockets fitting over the side bars and holding the pads snugly to the side bars. Small straps are provided to facilitate removal of the pads from the bars when necessary.

Stirrup straps.—These are of light harness leather, $1\frac{3}{8}$ inches wide and $56\frac{1}{2}$ inches long over all when complete. At one end is a $1\frac{3}{8}$ -inch bronze center-bar buckle sewed to the strap by a 2-inch pointed lap, flesh side out. The free end is pointed and punched with 12 oblong holes $1\frac{1}{4}$ inches apart, each hole being numbered.

The *stirrups* are issued in two sizes, varying in width $\frac{1}{4}$ inch.

Girth-strap adjusters (Plate XIII).—These pieces are designed to vary the location of the girth relative to the saddle. The adjuster consists of a piece of 7 to 8 ounce collar leather a little wider than the girth and about 12 inches long. This is reinforced for the upper 6 inches with a back of similar leather stitched to the front around the edges. There are four loops formed in the adjuster by slots cut in the outer piece; between each pair of loops is riveted a $\frac{3}{16}$ -inch bronze stud. Each girth strap passes through a pair of these loops, and the stud enters one of the holes in the girth strap.

The *girth* is made of olive drab, hard laid No. 60 cotton seine twine woven in the center and at each end near the buckles with No. 16 olive drab cotton seine twine. There are two buckles at each end of special design. The upper ends of these special buckles are $1\frac{3}{16}$ -inch roller buckles, and the lower ends of the buckles are widened to take the strands of the girth. The forward buckle on each side takes 17 strands and the rear buckle 18 strands, the strands being in one continuous piece, making two half turns and a half hitch each time it passes through the loop of a buckle.

The woven center band of the girth consists of eight rows of chain stitching, and stitched upon this band is a chape of leather carrying a $1\frac{1}{4}$ by $\frac{3}{4}$ inch buckle of 0.18-inch soft brass wire. This buckle points to the rear and secures the carrier strap, elsewhere described.

Two double-buckle, *pommel coat straps* and three single-buckle, *cantle coat straps* are issued for use in packing the saddle. These straps are $\frac{3}{4}$ inch wide, of 7 to 8 ounce collar leather.

The cantle straps are each 20 inches long. The pommel straps are $27\frac{1}{2}$ inches long, the second strap being sewed on at a point $17\frac{3}{8}$ inches from the pointed end and extending equally with the strap proper.

For the purpose of property accountability these straps are considered as a part of the saddle complete.

The saddle is made in two sizes, 15 and 16 inches, measured on the frame from the rear face of the pommel arch to the front face of cantle arch.

Directions for Use and Care.

Although this saddle is made to withstand severe treatment, it is recommended that it be subjected to no greater degree of neglect and abuse than circumstances may require. Its beauty and finish will amply warrant the best of care. To saddle, place it upon the blanket so that the front edge of the side bar approaches closely to the shoulder blade without pressing upon it. The saddle will tend to remain in that position and will give little trouble by shifting. The saddle adjusts itself automatically to the horse's back, in so far as the bearing surfaces of the side bars are concerned, and no adjustment in this respect is required. This automatic feature is brought about by applying all weight that comes upon the side bars through their center of rotation, thus leaving the side bar of the loaded saddle entirely free to adapt itself to the horse's back. In order to preserve this freedom, no attachments of any kind should be placed on the side bar other than as issued, and no weight borne by the saddle should be permitted to rest upon the side bars, except as transmitted to them through their proper hinges. The cantle roll support and

straps have been devised especially to raise the roll and keep all weight off the surface of the side bars.

The girth should ordinarily be about 4 inches in rear of the point of the elbow, varying somewhat with the conformation of the horse. It is readily adjusted in this respect by the girth-strap adjusters (Plate XIII). To move the girth relatively forward, shorten the front girth straps, or lengthen the rear girth straps, or both. To move the girth relatively to the rear, reverse this method. By this means the saddle may be held in different positions if found desirable. Habitually the studs should be in the corresponding holes in both front and rear straps. A variation of one hole is usually sufficient to set the saddle forward or back to conform to the needs of an ill-shaped horse or a sore back. Three lengths of girth are issued, to wit, 28, 32, and 36 inches. Considerable latitude is also allowed on the girth straps for lengthening and shortening. It is desirable, however, that the proper length of girth be obtained, rather than to try and fit all horses with a single length. Habitually the buckles of the girth on either side should rest upon the corresponding girth-strap adjuster. This is designed to act as a safe to these buckles and prevent their injuring the horse. A sufficient number of holes is provided in the girth straps to permit of the lowering the adjusters to serve this purpose.

When not needed, the coat straps should be disposed of as follows: The double buckle straps may be either removed and placed within the pommel pockets or, if the latter are worn on the saddle, the free ends of the double buckle straps may be passed through their usual staples above the pommel pockets, from rear to front, flesh side up, thence forward, down in front of pommel-pocket gusset, under pommel-pocket attaching strap, and back to buckles, drawn up snugly, and buckled to both buckles; the remaining single buckle coat straps may be either rolled or twisted as heretofore on the McClellan saddle.

The stirrups are attached by loops that permit their ready removal from the saddle. This is done rather for reasons of convenience than of safety. If the latch fails to open readily with the fingers, put a thong through its eye and pull on the thong. The stirrups are issued dark colored and are not to be brightened by polishing. If rust gathers upon them, remove it by an oiled rag. The stirrup straps are purposely placed with flesh side out—this prolongs their life. They are worn with the buckles drawn up against the safety loops on saddle, buckles on outside.

When unsaddling in the field, fold the skirts and carrier straps with their attachments under the saddle before placing it on the ground.

In garrison the saddle should be hung on a bracket sufficiently wide so that the saddle rests on its side bars. If a narrower support

is used, the saddle will rest on the low point in its leather seat and soon become badly misshapen.

Saddle Blanket.

To fold the saddle blanket, proceed as follows:

The blanket, after being well shaken, will be folded into six thicknesses, as follows: Hold it well up by the two corners, the long way up and down; double it lengthwise (so the fold will come between the "U" and "S"), the folded corner (middle of blanket) in the left hand; take the folded corner between the thumb and forefinger of the right hand, thumb pointing to the left; slip the left hand down the folded edge two-thirds its length and seize it with the thumb and second finger; raise the hands to the height of the shoulders, the blanket between them extended; bring the hands together, the double fold falling outward; pass the folded corner from the right hand into the left hand, between the thumb and forefinger; slip the second finger of the right hand between the folds, and seize the double-folded corner; turn the left (disengaged) corner in, and seize it with thumb and forefinger of the right hand, the second finger of the right hand stretching and evening the folds; after evening the folds grasp the corners and shake the blanket well in order to smooth the folds; raise the blanket and place it between the chin and breast; slip the hands down halfway, the first two fingers outside; the other fingers and thumb of each hand inside; seize the blanket with the thumbs and first two fingers; let the part under the chin fall forward; hold the blanket up, arms extended; even the lower edges; seize the middle points between the thumbs and forefingers; and flit the outside part over the right arm; the blanket is thus held before placing it on the horse.

The Cooling Strap.

(Plate VII.)

This strap is made of olive-drab webbing, is $87\frac{1}{2}$ inches long and is fastened with a tongueless bar buckle. The horse's back should not, when heated, be immediately exposed, after unsaddling, to the hot sun or to the cool air. The saddle blanket should be left upon it for a reasonable period. To keep the blanket properly in place, the cooling strap has been provided. When not in use, fold the strap carefully and replace it in the compartment therefor in the rear of the off pommel pocket.

The Rifle Carrier Boot.

(Plate III.)

This piece of equipment has two essential parts—(1) a *leather bucket* in which the butt of the rifle fits quite snugly, and (2) a

standing part, which supports the bucket and serves to attach the whole boot to the saddle.

As will be seen from the cuts, the bucket is a flask-shaped cup about 9 inches high. The body is of 7 to 8 ounce collar leather and has a sole-leather lining. Between the lining and outside there are two flat steel springs so shaped and located as to cause the flat sides of the boot to press moderately against the sides of the rifle butt, thus steadying it and preventing excessive movement. The bottom of the bucket is of sole leather, oval shaped, and pressed into the form of a shallow cup, the sides of which are riveted to the bucket sides by 24 brass belt rivets with burs. There is a bottom lining of gray felt $\frac{1}{2}$ inch thick to deaden the pounding of the rifle butt.

The standing part of the boot consists of a stiff body about $17\frac{1}{2}$ inches long and varying in width from 4 to 6 inches, made up of two thicknesses of bridle leather $9\frac{1}{2}$ to $10\frac{1}{2}$ ounces, stitched together all around the edges and having between them a thin sheet steel spring of approximately the same shape for stiffness. In addition to this spring there is a thin cast aluminum alloy reinforce piece for added strength at the bottom where the bucket is attached. The attaching strap, a plain strap of heavy harness leather, is riveted onto the top of the standing part, then passes upward through a loop near the near cantle hinge of the saddle, back down to a stud in the back of the standing part where adjustment is obtained, thence on downward to the carrier strap which passes under the horse.

The bucket is attached to the standing part by means of a swivel on the lower end of the standing part which engages with a staple riveted into the bottom of the bucket. The whole weight of the rifle and bucket rests on this swivel. The bucket is maintained in an upright position by a retaining strap which is riveted into the wall of the bucket but is held to the standing part by friction only, so that if the bucket is violently forced away from the standing part, as in case of a man falling from his horse on the near side, the retaining strap will slip out of the standing part and allow the bucket to swing freely from the swivel.

In order to obtain sufficient friction on the retaining strap it passes up between the front and back leathers of the standing part for a distance, then doubles back on itself under a metal spring loop which holds the strap firmly enough to maintain the bucket upright unless an abnormal force is used to free it.

This article of equipment supports the rifle while it is on the saddled horse. Before "Standing to horse" the trooper attaches his rifle to his belt by passing the muzzle up through the belt ring and engaging the snap hook of the belt ring strap into the trigger guard. To insure that the trigger guard screws may not work out due to this

method of slinging the rifle to the belt, tighten the trigger guard screws periodically.

At "Stand to horse," the rifle being slung to the belt, the trooper then has both hands free to use for any purpose. Being at "Stand to horse," upon any preparatory command, except for mounting or linking horses, at once unsling rifle from belt ring and take position of "Order arms," removing bridoon reins from horse's neck and passing right arm through them, if necessary. If the command is for linking horses, link first, and then unsling rifle. To mount, proceed as though without rifle. When seated in saddle, with left hand grasp rifle at bolt, barrel to the front, slip butt of the rifle into the bucket, steadying the latter with left foot if desired, and take the position of the trooper mounted. To dismount, at preparatory command, seize the rifle with left hand at the bolt, give it a quick, forcible pull, lifting butt from the bucket, and let rifle hang from the belt. After this preparation dismount as though without rifle, except that as the right foot passes over the croup, bring it beside the left foot, still in the stirrup, and make a slight pause. This permits rifle to come to rest in a vertical position and prevents its unnecessary swinging as trooper descends to the ground.

The rifle carrier is fastened to the saddle horse by passing the end of the attaching strap downward through the loop on near cantle hinge, and securing by its proper stud and loop on back side of standing portion of the boot. The free end of this strap below the stud forms a depending billet which attaches to the near buckle of the carrier strap. The boot is adjusted to the particular trooper by placing him on the saddle horse, his rifle in the bucket, and raising or lowering the boot to suit his convenience. The retaining strap is purely a safety device. In case the trooper should be thrown toward the near side, the retaining strap will be forcibly pulled from its loop, the bucket will fall and release the rifle butt. The trooper will thus be disengaged from his horse. When thrown in any other direction, this act will of itself withdraw the rifle from the bucket. Once the retaining strap is withdrawn from its loop from any cause, the trooper before mounting should replace it. This is easily done. Pass the free end up through leather facing of standing part, if necessary, then through metal loop, and draw bucket into vertical position against standing part of boot. Turn free end of retaining strap on itself, and pass back through metal loop, above previous part, then downward through leather loop on outside face of standing part, and draw it sufficiently snug *to bring fold to within about $\frac{1}{2}$ inch of metal loop.*

It is impracticable with this carrying device to "advance rifle."

Stock Cover.

(Plate IV.)

This is essentially a protecting band of collar leather, 7 to 8 ounces, which clamps snugly around the rifle stock just above the rear sight and extends forward along the stock for a distance of about $9\frac{1}{8}$ inches. The object of the cover is to prevent injury to the rifle where it comes in contact with the belt ring, and further to prevent injury to the belt ring by the sling swivel of the rifle moving up and down through it. It is practically a plain cylinder of leather, except that it is cut away where it passes over the lower band and swivel and sling of the rifle, and a protecting flap, called the swivel safe, is sewed on at this point. The cover is kept in place by a spring bolt and lock riveted into the overlapping edges. The swivel safe above mentioned has two slots cut in it, through which the sling of the rifle may be passed.

To place, lock the cover together just above its position on the rifle, slip it down to its proper position, and secure it there by passing the gun sling through lower slot from outside inward, then through swivel from below upward, then through upper slot from inside outward, thence back to sliding loop on gun sling and draw taut to press swivel against stock below the band.

Rifle Cover.

(Plate IV.)

This article is made of olive-drab cotton duck, 8 ounces per square yard in weight, fiber dyed. It is of one single piece, except for a reinforce band at the muzzle end 4 inches wide. There is a draw-string of cotton seine twine. The length of the cover made up is 34 inches, which length is determined by the fact that the trigger guard must be exposed to permit of attachment of belt-ring snap. The cover is practically waterproof, and makes up in a measure for the loss of protection to the rifle in storms, formerly furnished by the old-pattern rifle scabbard. The proper authority will determine on what occasions it will be made use of. When not worn on the rifle, it can be conveniently carried in the canteen roll.

The Cavalry Saber, Model of 1913.

(Plate V.)

The cavalry saber, model of 1913, has a straight two-edged *blade*, with a chisel point. The blade is of forged steel; extreme length, including grip, being approximately $41\frac{1}{2}$ inches. The blade proper

tapers from a width of 1.175 inches and a thickness of 0.298 inch at the guard to a width of 0.58 inch and a thickness of 0.162 inch, 1.8 inches from the point, and from the latter section forward is tapered to the chisel point. The blade has a groove running down each side to within $4\frac{3}{4}$ inches of the point. Both edges are sharp, except that the back is dulled to a width of 0.03 inch for a distance of 18 inches from the guard and the front edge for a distance of 12 inches from the guard.

The grip end of the blade is shaped to take the *pommel*, which is a steel forging forming the back of the grip. This piece is checked with diagonal milling cuts 11 per inch and has a checked thumb depression. This pommel is fastened to the back of the blade and to the sides are fastened the right and left *grips* of black hard rubber checked with 13 per inch checking. The rubber grips are fastened on with two grip screws about 1 inch long, passing through grips and blade. The pommel is secured to the blade by a pommel screw at the extreme rear end $1\frac{1}{4}$ inches long, which screws into the blade.

The *guard* is of sheet steel 0.042 inch thick, pressed to form a complete protection for the hand and stiffened by three grooves pressed into it. The guard is fastened at its rear end by being brazed to a connection plug which enters the pommel piece, and is held therein by the pommel screw passing through it. The guard is further stiffened by the edges being rolled inward all around the guard. Just below the guard on the blade is a sheet *steel washer* and below that a *leather washer* to protect the guard against the saber scabbard.

The guard and pommel are given a brown finish and the blade is left bright and polished.

The saber will be issued sharp, and should be kept in that condition. The metal portions of the hilt should not be brightened by polishing. If rust gathers upon them, rub it off with an oiled rag. The saber is carried in the saber carrier, edge to the rear, secured by the billet on the carrier through loop on the scabbard.

The Service Saber Scabbard.

(Plate V.)

This scabbard is made up of a hickory body, thoroughly seasoned and dipped in oil and white lead; a *rawhide cover*, sewed up with a rawhide string and drawn on tightly, when wet, so as to dry in place, making a firm covering, and then thoroughly coated with shellac; an *outer covering* of tubular olive-drab webbing; a *tip* of drawn steel, forced on, riveted with three through rivets and crimped to the body; a *mouthpiece* of pressed steel, welded at the

seams and having a ring on each side for attaching saber attachment, the mouthpiece riveted to scabbard by three bifurcated rivets and crimped. Inside this mouthpiece is a flat spring, which bears on the saber so as to hold it firmly in place, but at the same time admitting of easy withdrawal of saber.

The metal parts have a dull bronze finish, and the web cover is given two coats of shellac to render it waterproof, of uniform appearance, and not easily soiled. The tip has a point with a hole for drainage, the tip being of proper size to fit the grommets of the shelter tent, so that the scabbard with saber in it can be used for a shelter-tent pole.

Metal parts of the scabbard must not be polished. If rusty, clean them with an oiled rag. The canvas cover should not be soiled by smearing oil or grease upon it.

The Saber Knot.

The saber knot consists of two $\frac{1}{2}$ -inch body straps, $13\frac{1}{2}$ inches long, on which are two movable slides. At one end a $3\frac{5}{8}$ -inch button loop is attached by means of a button, and at the other end is secured a blind tassel body composed of a compact roll of leather about $2\frac{3}{4}$ inches long by $\frac{5}{8}$ inch in diameter.

Saber Carrier, Service.

(Plate V.)

The saber carrier consists of two principal parts, a base piece and the saber loop. The loop is essentially a tube of medium harness leather 6 inches long and of oval cross section to conform to the scabbard which is carried in it. The loop is lined with a light collar leather.

The loop is hung from the base piece by means of a large bronze joint or swivel, which is so designed as to permit of motion relative to the base piece only in one plane, i. e., the vertical plane parallel to the axis of the animal. This motion is itself restricted by stops in the swivel suitably located so that the loop carrying the scabbard and saber can swing about 40° to the front or rear.

The loop has stitched onto its outside a saber loop billet, a strap of 7 to 8 ounce collar leather, which serves to fasten the scabbard in place in the saber loop.

The base piece is made up of two pieces of leather about $12\frac{1}{4}$ inches long and $5\frac{9}{16}$ inches wide at widest part, the upper corners rounded and the lower end tapered down to $1\frac{1}{4}$ inches wide. These two pieces are stitched together all around the edges, and the outer one has a 2.8-inch hole where the stationary part of the swivel protrudes. At

the upper corner of the base piece is riveted and stitched an attaching strap or billet of medium harness leather $1\frac{1}{4}$ inches wide. This strap is $23\frac{1}{4}$ inches long, and after passing up to the off suspension loop on the cantle of the saddle returns to a $1\frac{1}{4}$ -inch bronze-finished barrel roller buckle on the base piece.

Extending from the tapered-down bottom of the base piece is a depending billet, a strap of medium harness leather $1\frac{1}{4}$ inches wide and $21\frac{3}{4}$ inches long, which passes under the animal and is buckled to the carrier strap.

In the base piece just above the swivel is a key slot cut through the swivel plate and leather of the base piece which is for attaching the intrenching tool carrier to the saber carrier.

The *officers' saber carrier* differs from the above in several particulars; the base piece is lighter and padded with goat hair next to the animal where the swivel would be apt to chafe. The attaching and depending billets are of 7 to 8 ounce collar leather $\frac{7}{8}$ inch wide; the loop is lighter and slightly longer; the swivel is of lighter construction and permits slightly less swing to front and rear.

This carrier is designed to carry the bright metal officers' garrison scabbard only. In the field officers will use the service scabbard.

The scabbard is placed on the off side of the saddled horse and held in place by passing its attaching strap through the loop on the off cantle hinge. The depending billet buckles to the carrier strap. Adjust so that saber shall swing in a vertical plane. Keep swivel well oiled. Do not brighten metal parts.

If it is desired to be armed with the saber mounted, but without the rifle carrier boot, or the special picket pin carrier, as the case may be, remove the carrier strap wholly from the equipment. Then buckle the depending billet of the saber carrier into the swivel buckle on the girth and adjust to proper tension. It is probable that this billet end will not pass into the standing loop beyond the swivel buckle, on account of the angle made by this billet. This need cause no inconvenience—dispose of the billet end by tucking it in between the strands of the girth, which will answer just as well.

When separating from the horses for extended fighting on foot, if the horses are to be led any material distance or over rough ground, then the saber should be secured to its scabbard by the saber knot.

The Carrier Strap.

(Plate XIII.)

This is a leather safe, trilobular in shape, about $6\frac{1}{2}$ inches wide and 5 inches long. To the forward lobe is attached a strap of $9\frac{1}{2}$ to $10\frac{1}{2}$ ounce bridle leather, $1\frac{1}{2}$ inches wide by 12 inches long, which connects the carrier to the girth by means of the buckle in the center

of the girth. To each side lobe of the carrier strap is attached by a leather chape a $1\frac{1}{4}$ -inch malleable-iron roller buckle, bronzed, the leather chape carrying a standing loop. These buckles serve as means of attaching the depending billets of the saber carrier and rifle carrier boot, or special picket pin carrier.

The purpose of this article is to retain the rifle boot, or special picket pin carrier, as the case may be, and the saber carrier snugly against the flanks of the horse, thus avoiding all flapping, swinging, and unnecessary motion of whatever kind. It should be drawn sufficiently snug to accurately accomplish this purpose and no more. It serves in no sense as a rear girth—the saddle needs no rear girth—and it should not be employed for any such purpose. The strap attaching it to buckle in girth admits of easy adjustment to accommodate horses of different conformation.

The Intrenching Tools.

(Plate VI.)

The shovel.—This consists of a blade only, the trooper's picket pin supplying the handle.

The shovel is of sheet steel 0.058 inch thick. It is $7\frac{5}{8}$ inches long and $6\frac{7}{8}$ inches wide at the top. The top edge is bent over toward the concave side of the shovel so as to form a stiffening rib $\frac{5}{16}$ inch wide along the top edge of two thicknesses of metal.

On the front of the shovel is a socket made of forged steel riveted on with six $\frac{3}{16}$ -inch rivets. This socket fits the small end of the picket pin. A short 5-link steel chain is fastened to the shovel near the socket, and this chain carries at its outer end a split pin which enters a hole in the picket pin, thus securing the latter when in its place as a shovel handle.

To assemble, slip the pin into the socket in the blade, turn the pin gently till the hole in the web of the pin is nearest the cotter pin of the blade. Insert this cotter pin in the hole in the web and turn the picket pin handle till the chain binds. To detach, reverse the process. Do not use blows or violence. Keep the picket pin clean and free from rust and there will be no difficulty. Carry the shovel, on the march, in the outer compartment in the intrenching tool carrier, convex surface outward. To go on the dismounted firing line the trooper assembles his shovel in the tool frog of his belt, concave surface next him, carries the depending strap of his belt ring across on the outside of the shovel blade from rear to front, and engages its snap hook upon the upper edge of the belt just in front of the magazine pocket on the left side.

The Pick.—This is a single, chisel-pointed pick, made of tool steel; the pick, consisting of head only is $6\frac{1}{4}$ inches long over all, 1 inch

wide at the blade, tapering back $4\frac{1}{2}$ inches to $\frac{5}{8}$ inch wide. Thickness at base of bevel $\frac{3}{16}$ inch, tapering back $4\frac{1}{8}$ inches to $\frac{7}{16}$ inch. The eye for the handle is forged in the head to fit the larger end of the picket pin snugly. The pick is ground to an edge, tempered, and painted olive drab all over. Weight when finished $9\frac{1}{2}$ ounces.

This article, as the above, utilizes trooper's picket pin for its handle. Introduce the pin through the eye of the pick from the front toward the rear, hammer face of pin toward back of pick. The pick is issued along with the shovel blades in the proportion of one pick to three shovels. On the horse it is carried in the intrenching-tool carrier. To carry dismounted, assemble, slip point of pin handle down through loop of tool frog, edge to the front, and secure belt-ring strap as explained in case of the shovel.

The *pick cover* (Plate IV) remains constantly upon the pick except when the latter is in use; the trooper then puts the cover in his pocket for the time being.

The Hatchet.—This consists of the head only and is $4\frac{7}{8}$ inches long centrally, measured on the face of the blade, the back of the head being rectangular and $2\frac{1}{4}$ inches by $\frac{3}{4}$ inch. The eye is forged in the head to fit the larger end of the picket pin snugly. The edge is ground sharp and tempered, and the head is painted olive drab all over except the cutting edge for $\frac{1}{2}$ inch wide. The hatchet finished weighs 20 ounces.

As above stated, the head only is finished. Place the picket pin in the eye of the hatchet from front to rear, face of hammer head on same side as back of hatchet head. A slight blow or jar on extreme hammer end will tighten the hatchet on pin handle. To loosen it jar the point end of the pin. This tool is issued to troops at the rate of one for each sergeant, omitting the first sergeant. It is carried in the intrenching tool carrier, in the same compartment as the shovel or pick of the other troopers. To carry dismounted, assemble, slip point end of pin down through loop of tool frog, edge to the front, and secure belt-ring strap as explained in case of the shovel.

The hatchet cover (Plate IV) remains constantly upon the hatchet except when the latter is in use; the trooper then puts the cover in his pocket for the time being.

The Intrenching-Tool Carrier.

The *intrenching-tool carrier* (Plate VI) is a leather pocket conforming to shape of shovel, made of a front and back of medium harness leather stitched together around the edges. The back piece is longer than the front and doubles over to form a flap, which flap is locked by two staples protruding through the flap and double-ended billet passing through the staples. The pocket has a partition of 5 to

6 ounce collar leather, thus forming a large inside pocket for carrying horseshoes, nails, etc. There is a small nail pocket of $3\frac{1}{2}$ -ounce collar leather $3\frac{1}{4}$ by $2\frac{1}{4}$ inches wide, which can be removed from the shovel carrier, but is attached thereto by a short thong.

This article of the equipment is for the purpose of carrying either the shovel, the pick, or the hatchet, as the case may be, in its outer compartment, and the trooper's extra horseshoe and nails in the inner compartment. It is attached to the saddled horse by means of the saber carrier and the loop at the rear of the off girth-strap adjuster. To attach it to the saber carrier, turn the saber carrier till the axis of its slot is parallel to and just over that of the lock stud on the intrenching-tool carrier. Slip the stud through the slot and turn the saber carrier on this stud so that when the axis of the base piece of the saber carrier is vertical, and its depending billet extending downward, that of the intrenching-tool carrier will be horizontal, and slip the billet of the saber carrier through the loop on the lower edge of intrenching-tool carrier. The saber carrier is then attached to the saddle and carrier strap by its proper billets, and the billet at point of intrenching-tool carrier is buckled through loop on girth-strap adjuster into its proper buckle.

The Cavalry Picket Pin and Lariat.

The *picket pin* (Plate VI) is a forging of medium-grade crucible steel. It is $13\frac{3}{4}$ inches over all length and is slightly tapering from a width of $1\frac{1}{4}$ inches under the head to $\frac{1}{2}$ inch diameter $\frac{3}{4}$ inch above the point. The shank of the pin is of channel section, for lightness, from the head to $3\frac{1}{2}$ inches from the point with a web $\frac{3}{16}$ inch thick. The head of the pin is shaped like a claw hammer, so that the pin can be used as such when desired. The point and head are given a mild temper.

The *lariat* (Plate VIII) is made of olive-drab cotton webbing, $\frac{5}{8}$ -inch wide, oval in section. At one end is a $\frac{1}{8}$ -inch swivel eye-bolt snap, bronze finish, and at the other end a double eye. The double eye is of bronze, and the part engaging in the loop of the lariat is a $\frac{3}{4}$ -inch D, while the other part is a ring $1\frac{1}{4}$ inches diameter. The lariat assembled is 15 feet long, exclusive of the snap and double eye.

The picket pin serves as a handle for the several intrenching tools, also a shoeing hammer and a clinching iron in emergencies, as well as its usual purpose of aiding in tethering a horse. To use it with the lariat, snap the hook of the latter into the halter ring, and drive the pin through the ring of the double eye on the lariat, leaving the hammer head slightly above the surface of the ground. The ring will then work around the pin as the horse feeds, giving a swivel

effect. In case the horse pulls up the pin, the loop will draw off the pin, and the latter should be found near the point it was driven. The pin is carried on the march either in its case on the saber scabbard or in the special carrier, as the case may be.

The Picket Pin Case.

The *picket pin case* (Pl. VI) is a slightly conical tube of 7 to 8 ounces, collar leather, $13\frac{1}{2}$ inches long, shaped to fit the picket pin quite closely. There are two straps with buckles which encircle it and secure it to the saber scabbard, the upper one $\frac{3}{4}$ inch wide and the lower $\frac{5}{8}$ inch wide, both of 7 to 8 ounce collar leather. A billet piece at the top passes over the head of the pin and secures it.

The case carries the picket pin for those troopers armed with the rifle. The upper strap passes around the scabbard through the carrier rings thereon. The lower strap passes around the scabbard.

The Ration Bags.

(Plate X.)

These bags, one right and one left, forming a pair, are made of a heavy fiber dyed duck, No. 1, which weighs 28 ounces per square yard. The *back piece* is approximately 21 inches long and 7 inches wide, the lower $11\frac{1}{2}$ inches being double in thickness. This piece is bound around the edges with cotton webbing $\frac{3.1}{100}$ ounce per yard and $\frac{3}{4}$ inch wide.

To this back piece is stitched the *pocket body*, made of one piece of the No. 1 duck, the pattern being cut to include the front, side gussets, bottom, and gusset flaps at the top, the whole forming, when stitched to the back piece, a pocket approximately 6 inches wide, 11 inches long, and 3 inches deep. On the back of each back piece is fastened a *suspender* of cotton webbing 2 inches wide. This suspender is so attached to the back piece that it can swing out at the proper angle for slinging over the shoulder (about 40°), or can swing over in a line parallel with the axis of the bag when used to connect the two bags for slinging over the cantle of the saddle.

The forward side of each bag is so arranged that the back piece extends out from under the pocket; these extensions, when overlapped, serve as a means for connecting the bags together to form a knapsack, as shown assembled in plate.

When used as a knapsack the belt and stay strap shown in plate are attached to the billet on the suspender body. When the bags are arranged to sling over the cantle of the saddle these belts and stay straps are removed from the suspender billet and attached to a billet at the bottom of each bag and serve to connect the bags to small D-rings on the rifle boot and saber carrier to steady the bags in place.

To the outside of the pocket of each bag is stitched a flap of the No. 1 duck, $10\frac{1}{2}$ by $4\frac{7}{16}$ inches; this piece is stitched only along its bottom edge and rear edge, the front and top edges being free. The front edge is provided with six grommets for lacing, so that when the two bags are assembled into the knapsack these flaps are laced up to form the meat-can pocket.

The ration bags are intended for campaign use and will carry two haversack rations and one emergency ration (packed after the manner of the present issue of rations), although their ordinary contents will be one haversack ration and one emergency ration. These rations will distribute quite evenly, both as to weight and volume, between the two bags.

The bacon bag is an accessory of the ration bags and is intended to carry the portion of a trooper's haversack ration of bacon remaining after he has broken open the can and consumed some of it. Place the bacon in the bag without the can. It is not probable the can could be gotten in the bag, and in any case it would only strain and tear the bag. The enamel lining has been analyzed and found harmless.

Four leather thongs are supplied each trooper for securing his blanket when dismounted, or for other purposes. They are carried in the ration bags. Keep them clean, soft, and pliable.

(1) To pack the ration bags with two haversack rations and one emergency ration when bacon is furnished as a meat component, place in the rear ration bag two hard-bread packages, on the side next to the horse, and one can of bacon on the outside, with the flat side of the bacon can against the hard-bread packages. If the bacon is in a short or Morris can, push it to the bottom of the bag and put the two grocery components above it. If the bacon is in a long or Dold can, the two grocery components placed flat side down will just fit in level on top of the bacon and the hard bread. Then in the off ration bag put one emergency ration flat side down in the bottom of the bag. Next put in two packages of hard bread on the side next to the horse and one can of bacon on the outside. If this can is a Morris can, it will only fill the lower half. If it is a Dold or long can, it will reach to the top of ration bag. Packed in this way the off bag is $1\frac{1}{2}$ ounces heavier than the near bag, as near to a balance as the contents will permit.

(2) When canned corned beef is carried instead of bacon the same system of placing the hard bread and canned meat is followed, as above, except that the long pyramidal can of corned beef will extend to the bottom of each ration bag where its sharp edges will wear out the canvas unless a wadding of paper or hay is first thrust into the bag. In carrying this particular can of meat, care must always be

taken to protect the bottom of the bag in the manner mentioned. The emergency ration in the off pocket should not be placed in the bottom but should be brought up and put alongside the corned-beef can in order to give a better shape to the bag. The balance will be the same as when bacon is carried, although the rations weigh 11 ounces more.

(3) If the issue of the meat component happens to be one-half bacon and one-half corned beef, the bags are packed with three hard-bread packages, two grocery components and one emergency ration on the near side and one hard bread, one bacon, and one corned-beef can on the off side. This makes the off bag $1\frac{1}{2}$ ounces heavier than the near bag, exactly as before.

(4) To pack the ration bags with one haversack ration and one emergency ration when the meat component of the former is bacon, place one hard-bread carton, one grocery component, and one emergency ration in the near bag. The off bag is then 2 ounces heavier than the near bag, as nearly as the contents can be made to balance. In order to keep the bag in shape, stuff with hay, oats, or grass.

(5) As rations are consumed, rearrange remaining contents so as to keep the balance. If one side must be heavier than the other, let it be always the off side, thus aiding in counterbalancing the weight of the rifle. To hold remaining contents in place, stuff bags with paper or extra oats and lace the grommets with small thong. When only the emergency ration remains, put it and bags in cantele roll.

To place the filled bags on the saddled horse, first buckle a belt and stay strap to the billet depending downward and forward from each bag and couple the bags together, the lacing grommets of each bag to the rear, by engaging the hook at the extremity of each suspender into the little **D** ring on the upper portion of the opposite bag, then adjust suspenders to minimum length. Having first placed the shelter-tent roll and lariat across the bars just in rear of the cantele, then place over them the suspenders of the bags and pull the ends of the shelter-tent roll through the suspenders on each side so that these ends will rest on top of the bags. Fasten the pack by the center or cantele-roll coat strap lightly, and then step behind the horse and verify the balance of the pack, adjusting as necessary; then tightly grasp and bind the cantele roll, lariat, and suspenders with all coat straps, so that the pack entire rides snugly and well up above the back. Finally, engage the snap hooks of the belt and stay straps into the small **D** rings on the saber carrier and the rifle-carrier boot, first having made a trial adjustment of each, so that when engaged the bags will ride snugly in the correct position. When the ration bags are not needed, roll them inside the cantele roll or place them with the roll in the wagon, as the circumstances may permit.

To use the ration bags dismounted, place them side by side on the ground or on some convenient support, one set of lacing grommets superposed upon the other, and draw the lacing web snugly through these grommets. It will be retained there by friction. Place the meat can, with knife, fork, and spoon, inside in the pocket for that purpose, lace the pocket together with the thong provided, and secure covering flaps. The two bags have now formed a single knapsack. Place the knapsack on the trooper's back, above the bandoleer in case that article is worn, suspenders up; bring the billet ends of the suspenders down in front of the shoulders, carry them under the respective arms and shoulders of the trooper, and engage the hook at the end of each into the rectangular loop at the lower end of the ration bag, either the loop on same bag with suspender or the loop on the other bag, as found more convenient. Attach the belt and stay straps to the billet pieces placed on body of suspender, if not already there, engage the hooks on these straps each into an eyelet on the cartridge belt, and adjust both the suspenders and the belt and stay strap to the particular trooper's convenience.

To add the blanket to the dismounted trooper, form it into a convenient roll about 42 inches long, place it symmetrically on top of knapsack, break down the ends about the upper corners of the knapsack, and secure the roll snugly to the top and sides of the knapsack by the thongs provided for this purpose. When the blanket roll is inclosed in the shelter half the ropes of the latter can be used to secure the free ends of the roll to the sides of the knapsack.

The Service Pommel Pockets.

(Plate VII.)

The pommel pockets are made of bag leather, 5 to 6 ounces per square foot in weight, the near and off pockets being stitched onto a base of medium harness leather, so shaped as to fit over the pommel of the saddle and suspend the pockets therefrom on either side. This base piece is made in halves, each half approximately $17\frac{1}{2}$ inches long and $7\frac{1}{2}$ inches wide at widest part where pocket is mounted upon it, and tapering down to about $3\frac{5}{8}$ inches wide where it passes over pommel. The two halves are joined together at the narrow part, the joint being reinforced with a strip of medium harness leather $1\frac{3}{4}$ inches wide and $3\frac{5}{8}$ inches long. The base piece above described forms the inner wall of each pocket, and the walls or gussets of the pockets and the top flaps, all of bag leather, are stitched to the base piece.

The pockets are approximately 10 inches long, $7\frac{1}{2}$ inches wide, and $3\frac{1}{2}$ inches thick, the bottom ends being semicircular in shape.

They are attached to the saddle by engaging the high foot staples on the pommel through the slots in the base piece of the pockets and

fastening them in that position, either by the billets on the base piece or by passing the double buckle coat straps through them, as will be explained later, and then passing the attaching strap on each pocket through the loop at forward end of skirt near that pocket, buckle tongue pointing to the front, drawing snug, and buckling. The near pocket contains canteen with cover and cup, in main compartment, wire cutters in smaller compartment. The off pocket contains meat can, knife, fork, and spoon in canvas bag, grooming outfit above, and sponge, soap, and calkins, and extractor, when carried, below in main compartment, and cooling strap in its proper compartment. The small outside compartment opening from below is for the trooper's personal needs, pipe, tobacco, etc.

The Grooming Cloth.

(Plate VII.)

While the condemned saddle blankets furnish the principal source of the grooming cloth, the burlap grain sack makes an excellent grooming cloth. This source will doubtless always be abundant. The cloths may be cut of any convenient size for use in garrison, but should be limited for field service to the available space for carrying the cloth in the pommel pockets. The grooming cloth is not an article of issue.

Knife, Model of 1910.

(Plate VII.)

This is made of a blade of cutlery steel and a handle of aluminum cast onto the blade. The blade is ground and polished and handle stamped "U. S." and "R. I. A." and year of manufacture. This article is identical with the infantry knife.

Fork, Model of 1910.

(Plate VII.)

The fork is made of one piece of noncorrosive metal stamped to shape. It has the letters "U. S." and "R. I. A." and year of manufacture stamped into it. This article is identical with the infantry fork.

Spoon, Model of 1910.

(Plate VII.)

The spoon is made of one piece of noncorrosive metal stamped to shape. It has the letters "U. S." and "R. I. A." and year of manufacture stamped into it. This article is identical with the infantry spoon.

Meat Can, Model of 1910.

(Plate VII.)

This article is identical with the Infantry meat can and is made of an aluminum body and cover, both of which are formed in dies and have the rim rolled over for stiffness. Riveted to the body is the hinge and handle, and to the cover is riveted the loop. When the meat can is assembled the handle folds over the cover and the hooked end of it engages the rim of the body, holding the cover firmly in place.

The Canteen Cover, Model of 1910.

(Plate VII.)

The aluminum canteen, model of 1910, consists of the following parts:

One body, aluminum; one collar, noncorrosive metal; one shackle, noncorrosive metal; one cap chain, German silver; one cap rivet, German silver; one cap, aluminum; one gasket. The body of the canteen is of pure sheet aluminum, which is formed into the shape of a bottle, having one concave side and a capacity of approximately 2 pints. The collar is assembled to the canteen neck, and the cap is attached to the canteen collar by means of the chain, shackle, and sliding ring. The shackle is so designed that, should the chain break, the shackle can be opened, the detached links threaded to that portion of the chain remaining attached to the cap, and the entire chain connected to the sliding ring by means of the shackle. Shackles are issued separately for purposes of repair when desired, as are also caps and chains.

The Cup, Model of 1910.

The cup, model of 1910, consists of the following parts:

One body, aluminum; one handle, noncorrosive metal; one sliding lock, noncorrosive metal; one hinge, noncorrosive metal; one hinge pin. The cup is drawn seamless from sheet metal, the upper edge of the cup being stiffened by a bead formed on the body. The cup is so shaped as to fit over the bottom end of the canteen, and the handle is so formed that when it is not in use it fits snugly around the cup. The handle contains a slot into which the fork may be fitted when it is desired to lengthen the handle. Both the canteen and cup are identical with those of the Infantry equipment.

The Canteen, Model of 1910.

(Plate VII.)

This cover is made of olive-drab cotton duck No. 9, fiber dyed, and is lined with a blue-gray felt. The cover has two flaps which pass over the top of the canteen on either side of the neck and are provided with snap fasteners. These fasteners, like all of this type used on service equipment, are so designed that they will open easily if pulled in a direction of the longitudinal axis of the fastener (which is oval in shape), but will not open if pulled in any other direction, thus avoiding trouble from opening by brushing against objects, clothing, or other men.

On the back of the cover is a web strap which carries a double-end wire hook, by means of which the canteen is suspended from the belt when used by dismounted trooper.

Currycomb, Model of 1913.

(Plate VII.)

This article differs from those of previous issue mainly in being metal throughout, except the strap, which is of olive-drab cotton webbing.

Horse Brush.

(Plate VII.)

The horse brush has an oval back piece of russet collar leather 4.67 by 7.25 inches and a hand strap of the same material. This brush is about $\frac{1}{2}$ the size of that formerly issued.

Wire Cutters, Model of 1910.

(Plate VII.)

These cutters, shown in Plate VII, are forged from a good grade of tool steel. They are $8\frac{1}{4}$ inches long over all and have a leverage at the cutting edges approximately ten times the power applied at handle.

The handles are insulated with hard rubber so as to withstand a voltage of 5,000 volts. The extreme ends of the handles are provided with soft-rubber tips, because the hard rubber is very brittle and would break if the cutters were dropped on hard ground.

These articles are to be issued to each officer below the grade of major and to each enlisted man. They are carried in their special compartment in the near-pommel pocket.

Individual Soap Box.

(Plate VII.)

This box is made of tin, coated with yellow enamel, is $\frac{3}{4}$ inch deep, including lid, with $2\frac{1}{8}$ inches diameter, both outside measurements. The top edge of the box is rolled inward to form a smooth, round rim. The box will hold 2 ounces of saddle soap.

This article is for the purpose of supplying each man an individual allowance of soap for cleaning his equipments. It is carried on the march in his off pommel pocket. When its contents are exhausted it should be refilled from stores in bulk, and not thrown away as useless.

The 4-inch Sponge.

(Plate VII.)

This is provided for the individual use of the trooper and should not be cut. If cut it would soon fray out and be used up. It is carried in the off pommel pocket.

The Care of the Equipment.

This general subject is entitled to a greater degree of consideration than it has usually received in times past. It should be made a matter of instruction as well as one of administration. The general principles upon which the proper care of leather is based, as well as the proper method of treatment, should be taught to noncommissioned officers in their regular school as are the subjects of Guard Duty, Drill Regulations, etc. The cleaning and oiling of the equipment should, whenever practicable, be superintended by a commissioned officer as is stable duty. Leather properly cared for remains soft and pliable until absolutely worn out, probably many years; if uncared for or improperly cared for it soon dries out, becomes brittle, and its fibers are then easily broken and the equipment rendered useless. Under such conditions it lasts only a comparatively short time, a few years at the most, and even during that period is stiff, difficult of adjustment, and generally unsatisfactory.

It is a very simple matter in principle to properly care for leather equipment—in practice, considerable skill is required. Two agents only are needed to keep the equipment in first-class condition—soap and oil. The soap for the purpose of removing all dirt and the other matter that would serve as an obstacle to the penetration of the oil, the latter for softening and preserving the leather. Two varieties of soap are ordinarily used—Castile and harness soap. Castile soap is a powerful cleanser, frequently containing an excess

of free alkali that renders it an active agent in removing dirt, but it has no tendency of itself to soften and preserve the leather, as does good harness soap, which has no free alkali, but, on the other hand, frequently has a greater or less percentage of uncombined fatty substance available for softening and preserving purposes. Other agents are not only wholly unnecessary but frequently absolutely injurious and should never be made use of.

When new equipment is received it should, before use, be given a light application of oil. The necessity for this step is occasioned by the fact that leather frequently remains a considerable period of time in store in the arsenal, constantly drying out and parting with its oil. Upon issue this oil should be replaced. As new equipment is already clean, no application of soap is necessary in this instance. All that is needed is that the leather be slightly moistened, and that the oil be lightly and quickly applied. As far as practicable the oil should be applied on the flesh side, as it penetrates much more readily from this side than from the grain side. It should be applied by a rag or cotton waste, moistened in it to prevent an undue amount being used. A larger amount would do the leather no injury, but any amount above what the leather would readily absorb and retain would not only be wasted, but would continually ooze out under the action of the heat of the sun and soil the clothing. In order that no more oil than is really necessary be applied, it should be measured out in the beginning, and should rarely exceed the soap box cover full, about 1 ounce, for a trooper's entire equipment. It should be lightly applied for a similar reason. If much force is used, the portions first receiving the application get too much oil. If not applied quickly, the same holds true—portions where the rag is allowed to rest too long take up too much. A light, evenly distributed application should be the aim. Neat's-foot oil is furnished by the Ordnance Department for this purpose, and no other oils should be used. After the equipment has been thus oiled it should, if possible, be permitted to remain in a warm, dry place for 24 hours, if practicable, and then be rubbed thoroughly with a coarse, dry cloth to remove any unabsorbed oil.

The equipment is now ready for use, and will be found much improved in pliability by this initial treatment, but a single treatment is insufficient to attain the desired end. As time goes on, if proper care and treatment is given, the equipment will continue to improve both in flexibility and appearance until it is a delight to eye and fingers.

Daily, or as often as used, the equipment should be wiped off with a cloth slightly dampened in water, merely to remove mud, dust, or other foreign substance, and the bits and other metal portions wiped

off with a rag slightly moistened with oil to prevent rust. This takes but a few minutes after each daily use, and maintains the appearance of the equipment. It is, however, insufficient of itself to properly preserve it.

At intervals of from one to four weeks, depending upon circumstances, it is essential that the equipment be thoroughly cleaned. To do this properly every detachable piece should be separated—all billets unbuckled and the entire equipment reduced to its simplest elements. The trooper should then form a thick lather by moistening his sponge in clean water, squeezing it out and working it vigorously upon the Castile soap. When a thick, creamy lather is thus obtained he should thoroughly clean each piece of his leather equipment, working the sponge upon every portion, and drawing each strap its entire length through the lathered sponge, so as to actually remove the salt, sweat, dirt, or whatever may be, from each leather piece. After the leather parts are thus made approximately clean by the use of the Castile soap he should go over them again similarly with the harness soap in order to obtain a fine surface dressing and finish, the former being better adapted to cleansing, the latter to softening and preserving the leather. After the leather has been allowed to become partially dry, but not to harden, it should be rubbed thoroughly with a soft cloth. If the foregoing has been carefully executed, the appearance of the equipment should now be perfect, and if the leather is thoroughly soft and pliable nothing further is required. In general, however, it will be found desirable to apply a small amount of oil. This is done precisely as in the case of the new equipment, care being taken to avoid an excess, and thoroughly rub with a dry cloth before use.

All metal parts, except bits and spurs, need ordinarily only to be wiped clean with a cloth slightly moistened in oil; they are purposely issued dark, and it is desired they be retained in that condition. The use of warm water on the bits, stirrups, or similar portions to remove hardened saliva, sweat, mud, etc., is frequently advantageous. The bit, chain, and spurs may also be polished, but all dark metal should be cleaned and oiled only and should never be attacked with eroding agents.

The Feed Bag and Grain Bag.

(Plate VIII.)

The feed bag is a canvas cylinder, open at one end, suspended from the horse's neck when in use in a horizontal position, thus spreading the grain over a considerable area. There are two web suspending straps, one over the head and one near the withers on the neck. The body of the bag is of olive-drab duck No. 9, approxi-

mately 22 $\frac{1}{4}$ inches long. The supporting straps are of heavy 1-inch olive-drab cotton webbing, and are fitted with bronzed snaps and adjustable buckles.

The grain bag is of unbleached drilling formed into a long cylinder, 30 $\frac{1}{2}$ by 8 inches, open at one end. There are two soft cotton binding cords sewed to the outside of the bag, one at the open end and one at the center, the first to close the bag when full and the second to equalize the loaded bag into two parts for slinging across the pommel of the saddle.

The grain bag is used to avoid spilling grain while carrying it on the march. (The capacity of the bag is 10 pounds.) Place the amount of grain desired to be carried within the bag, tie the choke securely, divide the grain into two approximately equal portions by the string in the middle, place the bag inside the feed bag, press the grain bag well over toward the side of the feed bag opposite the webbing straps, fold the elliptical end piece of the feed bag in over the end of the grain bag, turn the extra canvas on the side of the webbing straps over upon the opposite side and secure it, first by the thong attached midway of the feed bag and then by the webbing straps of the latter, taking a half hitch, with each around its own end of the roll thus formed, then turning the roll over and bringing the free ends of these web straps out from the under side of their respective ends of the roll, then up over these ends, under the half hitches, and snapping the hooks thereon into each other. Place the grain roll thus formed upon the pommel, hooks upon upper surface, and secure by the two double-buckle straps furnished for that purpose, the grain roll being attached by the buckle at the extremity, the rain coat being attached immediately in front of the grain roll by the second buckle. To feed, take the grain roll off the pommel and remove grain bag from interior of feed bag. Untie grain bag and empty such portion of grain as is desired to feed therefrom into feed bag. Place grain bag in any desired position of safety while horse is feeding. Place the feed bag on the horse so that the opening will be immediately under his nose and the body of the bag under his neck. Snap the hooks into the corresponding D rings to support bag in this position. Adjust by making the steadying strap across the front of the horse's nose just sufficiently taut to allow the horse to feed easily, with a portion of his nostrils always above the opening. It is important that this adjustment be carefully made, as in the event of the horse not feeding well from the bag it will in most cases be due to the lack of adjustment of this strap. Adjust the remaining two straps by shortening them to a convenient height. The rear one should be drawn up well back on the neck about as high as comfort will permit. Once adjusted to any given horse no

further adjustment will be needed until used on a horse of materially different dimensions.

By use of a second grain bag, or by carrying grain in the feed bag without a grain bag and using the regular grain bag for this purpose, an additional 10 pounds of grain can, in emergencies, be carried in the cante roll.

In camp or on the march grain is fed morning, noon, and evening. The men are to remain near their horses until they have finished eating.

Packing the Saddle.

(Plate XI.)

This should be done, whenever practicable, after the horse is saddled. When impracticable to pack after saddling, pack the saddle beforehand, and have each packed saddle placed accurately upon the horse by two troopers, one on either side of the animal. It is a virtual impossibility for the ordinary trooper, unaided, to properly place his packed saddle upon his horse. His attempts to do so result usually in placing the saddle inaccurately upon the back and either riding all day with it in such undesirable position or, making matters worse, by shoving it into the proper position after it has been placed, thus insuring folds and wrinkles in the layers of blanket or pad below, all of which evils can be readily avoided by carrying out the simple directions above.

To Form the Cante Roll.—Lay the shelter tent on the ground and turn in triangle to lie flat. Turn under from 6 inches to 8 inches from end opposite the triangle. Spread the articles to be carried, viz, six tent pins, necessary underclothing and toilet articles, uniformly along the triangle edge over a range not exceeding 28 inches in length, leaving a vacant space of about 4 inches in the middle part to enable the roll to break nicely when completed. Turn over the two sides of the tent till they nearly meet in the center. Roll snugly from the triangle seam toward the other end. On reaching the other end, bend the roll and bring the underfold neatly over the roll to bind and secure it in a snug, compact form. This gives a roll about 30 inches long. The roll, when the ration bags are packed, should rest its ends on top of the bags, holding them snug.

If the bed blanket is to be carried on the horse, fold it neatly to six layers, each the size of the folded saddle blanket, and place it accurately upon the latter.

Place the pommel pockets, with their prescribed contents, upon the saddle as indicated under their description and pass the tapered end of a double-buckle coat strap through one staple, above the pommel-pocket oval, from front to rear, flesh side up. Place the

grain roll, formed as indicated under description of that article, symmetrically upon the pommel, passing one of its center thongs under the base piece connecting the two pockets and tying both center thongs by a slipknot. Pass the second double-buckle coat strap correctly through its staples and then snugly secure the grain roll in position by the buckle on the main part of each double-buckle coat strap. (See Plates XI and XII.)

Place the raincoat or the overcoat, as the case may be, properly folded, just in front of the pommel pockets, and secure it in that position, first, by the additional buckles on the double-buckle coat straps, taking care to keep these straps toward the center so that the raincoat when placed will readily break down in front of the pommel pockets, and, second, by the attaching straps of the pommel pockets, the billet of each of which passes from the loops on underside of pocket around in front of the lower part of the raincoat on its respective side, then between the webbing strap and the feed bag at its respective end of the grain roll, and by then buckling into its own buckle secures pommel pockets and all snugly to the loop on front edge of saddle skirt. (See Plate XI.)

Place the rifle carrier boot, saber carrier, intrénching tool carrier with its prescribed contents, and carrier strap as indicated, and attach the saber and picket pin in its case, all as indicated under the respective descriptions of these several articles.

Place the ration bags, if carried, as stated under their description.

Form the lariat into a snug roll about 14 or 15 inches long, place this roll upon the upper surface of the cantle roll, middle point of lariat roll over middle point of cantle roll, and secure the combination thus formed to the cantle by the three coat straps pertaining thereto, the cantle roll to be symmetrically disposed as regards the median plane of the animal, the coat straps to include in their grasp the suspender straps of the ration bags, if the latter are carried, so that all will form a compact cargo, well raised above the back of the horse and side bars of the saddle.

In order to reduce the burden upon the horse, in a measure, whenever practicable, the bed blanket and the cantle roll should be carried in wagons.

Cartridge Belt, Caliber .30; Cavalry.

(Plate IX.)

This belt is woven of olive-drab cotton duck, fiber dyed. The belt is 4 feet 4 inches long, extreme length. The middle section has nine interwoven pockets, each pocket to hold two clips of five United States rifle caliber .30 cartridges, belt between pockets and in end sections to be woven one ply. The upper portion of the belt is woven

two ply to form slit housing for the pocket flaps; these flaps fasten down over the pocket by means of a snap fastener, which bears the United States coat of arms. Each pocket has an interior retaining strap three-fourths inch wide, which also snaps down in place.

At the ends are end fasteners riveted to the belt. These have two short metal hooks pointing toward each other, which lock into the eyelets in the body of the belt so as to give an adjustable-length belt. The end sections, being turned back and fastened by the end fasteners to give the desired length of belt, carry the belt fastener—a male on the right and female on the left side—which form a quickly manipulated connecting buckle. There is room on the left end section to carry a double web magazine pocket for pistol ammunition. To the belt on the left side is riveted a leather tool frog.

The *belt ring* is a large ring, $3\frac{1}{2}$ inches inside diameter, supported on two standards, which are hinged to the base so that the ring may be held out in a horizontal plane when in use, or when not in use may be hung down close to the trooper's body. The ring and standards are supported when horizontal by a supporting brace, which assumes approximately an angle of 45° , and is locked in position by a double-spring latch on the standards. The ring is raised to a horizontal position by the hand, and when it reaches this position the supporting brace snaps over the latch without further assistance. When it is desired to collapse the ring, the two halves of this spring latch are squeezed together by the fingers, aided by two lugs on the latch for this purpose, thus withdrawing the latch halves and freeing the supporting brace.

The ring is faced inside with leather. The base supports the ring standards and supporting brace and is riveted to the belt.

Suspended from the base of the ring is a strap which carries at its lower end a metal snap hook which engages in the trigger guard of the rifle.

This belt carries 90 rounds of rifle ammunition and 2 pistol magazines. It should be adjusted to trooper so that the belt ring is slightly in rear of left hip, when belt fasteners are on median line of body. Adjustment is provided at either end of the belt, in order to accomplish this purpose. When worn on dismounted duty, the belt ring should be collapsed.

The Cavalry Bandoleer.

(Plate IX.)

This article is of olive-drab duck, woven in a similar manner to the cartridge belt. There are 12 woven pockets, each to contain a clip of 5 rifle cartridges, caliber .30, and in the middle of the belt are

three woven pockets for pistol ammunition. The bandoleer carrier, therefore, the excess of 60 rounds of rifle and 21 rounds of pistol ammunition over the cartridge belt which is required by Tables of Organization, 1914. Place the bandoleer on the trooper so that the pistol ammunition pockets are under the right arm, buckle over the left shoulder, billet falling behind.

Pistol Holster.

(Plate IV.)

This holster is similar to the revolver holster previously issued; it carries the pistol with butt to the rear, a block of leather on the inner side of the holster holding the butt of the pistol out so that the butt may be grasped easily.

Attach to belt by fastening its double end hook into the eyelets in the belt, or the slide, as the case may be (slightly in front of right hip.) The leg strap passes around the thigh, buckle outside of leg, tongue pointing to the front. Habitually the flap should be kept fastened down. When the pistol is about to be used, or there is a possibility of its sudden use, fasten the flap open by turning back the extremity of the flap, and thrusting it down between the body of the flap, and the inside portion of the holster. As this pistol is less simple in its action than the old revolver, greater care must be observed in the practice of returning pistol and raising pistol, in order to avoid accidents.

Pouch for First-aid Packet, Model of 1910.

This pouch is made of a piece of olive-drab cotton webbing, 5.25 inches wide by 11.3 inches long. About two-thirds of this length is folded and sewed to form a pocket and the remainder is used as a flap. On the back of the pocket a double hook, for carrying the pouch on the belt, is attached by means of a web chape.

The Spur and Straps, Model of 1911.

This article is drop-forged of one piece of 27 per cent nickel steel, the strap stud being riveted in place. The service and officers' spurs are identical and known as spur, model of 1911.

The spur is placed on the shoe well up toward the upper part of the counter, buckle on outside of foot. Wearing the spur in the position indicated preserves its life, favors the proper use of the spur as an aid, as well as conforming to the proper practice. This is a steel spur, and can be polished without injury. Adjust the upper strap

to the foot by its buckle, attach the spur to the foot and detach it therefrom by pulling the inside end of each upper strap over the spur button, instead of by using the buckle.

The Enlisted Men's Garrison Belt.

(Plate IX.)

This is the leather waist belt, to which have been added the following detachable components: A belt ring and strap, a pistol-magazine pocket (carrying two magazines), a rifle-ammunition pocket, a pistol-holster slide, and a first-aid packet pouch slide. The saber hook has been omitted from the belt, as it is no longer needed for the comparatively small amount of foot service the trooper will do with his saber. It will never be needed for mounted duty. Such foot service will consist, in the main, of carrying it to and from the stables when going to mounted duties and returning therefrom. Occasions will be rare when all of these accessory parts will be required at one time on the belt. They are all readily removable, and only those required to serve the necessities at any particular occasion should be retained on the belt. The belt ring is collapsed and raised in a similar manner to the belt ring on the cartridge belt. The attachments are arranged on the belt (belt outstretched, buckle to left) from right to left, as follows: Pistol-magazine pocket, pistol-holster slide, first-aid pouch slide, belt ring, and rifle-ammunition pocket.

To put the belt ring on the slide, raise the metal frame which supports the ring from the leather pad. Place the belt in the angle thus formed, resting on the clutch wire on the leather pad. Close frame down on pad. Then pass buckle end of small strap over the hinge bar, and buckle into the billet.

Bolo and Scabbard.

The bolo, model of 1910, has a 10 $\frac{1}{4}$ -inch blade with a double-edged point, and is 15 inches long over all. The scabbard for this bolo consists of a white-pine body covered with rawhide and tubular woven olive-drab cotton duck. For specifications of the scabbard, see ordnance pamphlet No. 1718, "Description of the Infantry Equipment, Model of 1910."

The model of 1909 bolo, which has a 14-inch pointed blade with a straight back and an over-all length of 19 $\frac{1}{4}$ inches, may be used in lieu of the above. This bolo has a leather scabbard.

The bolo is an article of issue to the Cavalry Arm for members of machine-gun troops only.

Pistol Belt.

The pistol belt is made of olive-drab woven fabric, $2\frac{1}{4}$ inches wide by $46\frac{7}{8}$ inches finished length, and is made adjustable at one end. The belt is provided with two rows of eyelets, each $\frac{3}{8}$ inch from the selvage, and a center row of eyelets for adjusting the length of the belt. It is provided with a woven-web, double-magazine pocket, which is slidable on the belt and which will contain two magazines for the automatic pistol, caliber .45, model of 1911. For specifications of this belt, see ordnance pamphlet No. 1718, "Description of the Infantry Equipment, Model of 1910."

The Record Case, N. C. O.

This article is intended only for noncommissioned staff officers and first sergeants. It carries the few forms and records necessary to have always at hand, thus enabling them to keep their essential records up while absent from wagon transportation. It is worn under the left arm, strap over the right shoulder.

This case is made of a light-weight collar leather. The back or base piece is cut approximately 8 inches wide by 20 inches long. To this are stitched two pockets superimposed upon each other, with side gussets; the back piece folds over in a flap to cover both pockets. The pockets are approximately $7\frac{3}{4}$ inches wide by $10\frac{1}{2}$ inches long inside and the outer pocket has small leather compartments for ink bottle, pens, and pencils. A shoulder strap is attached to the base piece by two snap hooks and D rings sewed to base piece.

The Picket-Pin Carrier, Special.

(Plate VI.)

The body of this article is of $9\frac{1}{2}$ to $10\frac{1}{2}$ ounce bridle leather cut 34 inches long. The upper end is cut to form a 1-inch strap $11\frac{3}{4}$ inches long. From this point downward the body widens gradually to a width of $2\frac{5}{8}$ inches and narrows down again to a 1-inch width at lower end, where a 1-inch strap $10\frac{3}{4}$ inches long of same leather is riveted and stitched, thus making the total assembled length of body, including attaching strap and the depending billet, $42\frac{3}{4}$ inches long. The attaching strap, formed on the upper end of the body, is provided with a 1-inch barrel roller buckle stitched on with chape and located where the body attaching strap begins to widen out to form the body proper. The attaching strap after passing up through the near cantle loop on the saddle returns to this buckle. On the wider portion of the body is fastened a conical tube of 7 to 8 ounce leather $13\frac{1}{2}$ inches long for the picket pin. This is fastened on by rivets and two leather loops, and a billet $\frac{5}{8}$ inch wide and $5\frac{1}{2}$ inches long is stitched to the upper open end to retain the pin in the pocket.

Riveted to the back of the body is the horseshoe pocket. This article is made up of a front and back of 6 to 7 ounce collar leather stitched together around the edges to form a pocket approximately $6\frac{1}{2}$ inches wide by $7\frac{1}{4}$ inches long with a flap formed by folding $2\frac{1}{2}$ inches of the back over the front, the flap being fastened down with two metal staples and a billet of leather. There is a nail pocket $3\frac{1}{4}$ by $2\frac{3}{4}$ inches of $3\frac{1}{2}$ -ounce collar leather carried in the horseshoe pocket and attached to it by a calfskin thong 12 inches long.

Where the depending billet fastens onto the lower end of the body a metal loop is fastened on for securing the ration bags on the near side. The lower end of the depending billet has holes punched for securing to carrier strap.

This article of equipment carries the picket pin, the horseshoe, and nails for officers and for those enlisted men not armed with the rifle. The pin fits in its case and is retained there by the strap over its head. The horseshoe fits in its case, toe to the front. The nails fit in their pocket, and the pocket is placed between the heels of the shoe. To place the carrier on the saddled horse pass the attaching billet through the lop in the near cantle hinge and buckle at such a height as will place the pin and shoe in the most convenient location. Buckle the depending billet into the buckle on the carrier strap and adjust so as to prevent undue motion on the part of the pin and shoe.

Arm Repair Chest, Model of 1910.

This chest is made of a poplar body and is well reinforced with corner irons and hinge bands. The exterior dimensions of the chest are 18.1 by 14.6 by 6.6 inches. The chest contains in a compact form the oils, spare parts, and tools required for the cleaning and repair of the rifles and pistols and in addition contains a supply of neats-foot oil for preserving leather equipments, including shoes. On the inside of the lid of each chest is posted a list of its contents. The chest is provided with a padlock. For a more detailed description of this chest, see Ordnance Pamphlet No. 1718, "Description of the infantry equipment, model of 1910."

The Troop Pack.

(Plate XIV.)

This comprises an aparejo, complete with all its accessories, especially set up for a troop horse.

The pack includes the following articles: One aparejo, one aparejo cincha, one saddle blanket, one sobrejalma, one corona, two pack covers, one crupper, one blinder, one lash rope, one sling rope, two lair ropes, and one lash cincha. These articles are similar to those now

issued for mule packs. A description of its customary cargoes, with instructions for its employment, follows:

The Field Picket Line.

This is a $\frac{3}{4}$ -inch rope made in two sections of 125 feet each. This picket line will hold 100 horses and give each 5 feet of space on his own side, except for the small amount of line used in tying to the end pins. The links for attachment to pins will be issued on the pins. It is recommended they be carried habitually on the line, rather in the pin and hammer chest. Directions for coiling line and forming into cargo will follow under the "employment of the troop pack."

The Field Picket Line Pins.

Five of these constitute a set. The length of these pins is somewhat less than is frequently used, but it is believed sufficient to hold the line. The pin will drive easier, come out easier, weigh less, and probably last longer on this account. The pins are habitually carried in the pin and hammer chest.

The Pin and Hammer Chest.

This carries the picket pins and the sledge hammer for driving them. Instructions for carrying this chest follow in the "Employment of the troop pack."

The chest is of poplar, $\frac{3}{4}$ inch thick, reinforced with metal, and is $21\frac{11}{16}$ inches long by $12\frac{5}{8}$ inches wide and $5\frac{11}{16}$ inches high, outside dimensions. The corners are dovetailed. The pins are supported and held in place by wooden packing. The lid is kept closed by two metal hasps locked with leather fids.

The Sledge Hammer.

The sledge hammer of crucible steel is 6 inches long with a cross section of $2\frac{3}{8}$ by $2\frac{1}{8}$ inches, and is provided with a 25-inch hickory handle. The weight of the hammer, including handle, is 7 pounds, 5 ounces.

The Troop Pannier.

The pannier is of poplar, $\frac{3}{4}$ inch thick, reinforced with metal, and is $19\frac{5}{8}$ inches long by $15\frac{1}{4}$ inches wide and $7\frac{11}{16}$ inches high. The partitions are $\frac{1}{2}$ inch thick, forming four compartments. There are also three metal boxes, two of which are of heavy tin and one of sheet steel. The latter is white enameled inside and is to carry farrier's supplies for three or four days.

To the outside of the pannier is fastened a 2-inch oak block with necessary screws and thumb nuts to secure the saddler's stitching clamp. The saddler in the field uses the pannier as a stitching horse.

This article carries such portions of the horseshoer's outfit, the saddler's outfit, and the farrier's as would probably be needed immediately with the column. The proper contents, their distribution, and the source from which derived are all set forth in printed table on inside of cover of pannier. Make but little variations, if any, in the contents there enumerated. If overloaded with all kinds of articles, the balance of the pack will be constantly changed and possibly the horse overloaded. Instructions for forming into cargo follow in "Employment of the troop packing."

The Canvas Watering Bucket.

(Plate VIII.)

This article collapses and packs very nicely. It is very useful. Eight are issued to a troop. They will be carried either in field wagons or on the troop pack as an additional top cargo. Grease, soapsuds, and dirt soil them so as to destroy their use to a greater or less extent as water buckets. This bucket is the same as that issued to Field Artillery.

Employment of the Troop Pack.

(Plates XV and XVI.)

This outfit is primarily intended for carrying the picket line, pins, and sledge, and the troop pannier, but is equally well adapted to carrying any desired cargo whatsoever that can be carried on any aparejo or pack rigging. The method and means of placing this rigging upon the horse and removing it therefrom, of placing the cargo upon the rigging and attaching it thereto, and of caring for the rigging and cargo in general are accurately set forth in the Manual for Pack Transportation, 1910, prepared by chief packer of the Army, H. W. Daly. All officers and instructors having the use of the troop-pack outfit under their charge should study this manual and make themselves thoroughly familiar with its contents—at least in so far as relates to the ordinary use of the rigging and cargo.

Below are given the more important references of this manual bearing on the case in question.

In the ordinary use of the outfit the pin and hammer chest, containing 5 pins and 1 sledge, and the troop pannier with its contents, form the side packs; the picket line carrying the pin links upon it, the top pack.

In case the troop is to be separated from its wagons for a day or more the following utensils may be taken from the field range and formed into a side pack to be slung opposite that formed by the troop pannier. The pin and hammer chest and the picket line will then be left with the wagons.

- 2 bake pans.
- 4 boilers, all in one nest.
- 4 covers for the above boilers.
- 2 lanterns, folding.
- 2 dippers.
- 1 dredge, salt.
- 2 spoons, basting.
- 2 meat forks, small.
- 2 butcher knives.
- 1 steel, butcher's, or carborundum.

Competent cooks can in an emergency cook for a hundred men with the above utensils; the men turning in for this purpose the rations carried by them individually. To prepare these utensils for lairing up, place all the smaller utensils within the innermost boiler of the nest—place the covers on their respective boilers and protect the boilers with the bake pans, one placed above and one below, inside of each toward the boilers.

How to Lair Up Side Packs.

See section 15, Manual for Pack Transportation, 1910.

How to Form the Top Pack.

The top pack is formed as follows:

Set two picket-line pins tightly in the ground 22 inches apart and coil the entire line (of both sections) snugly around outside these pins and guides. When completely coiled secure the coils by passing a strap around so as to engage the coils near to each pin and buckle these straps snugly. Next pass the two remaining straps about the body of the line, embracing both sides of the coil, so that the straps when snugly secured shall be about 6 to 8 inches apart. This should give a cargo about 32 inches long by about 10 to 12 inches in diameter weighing about 50 pounds when dry.

Putting the Aparejo on the Horse—How to Fold an Aparejo Blanket.

See section 18, Manual for Pack Transportation, 1910.

How to Place Blanket on Aparejo Preparatory to Putting on the Aparejo.

See section 19, Manual for Pack Transportation, 1910.

How to Blind a Pack Animal.

See section 20, Manual for Pack Transportation, 1910.

How to Place Corona, Blanket, and Aparejo on Animal.

See section 21, Manual for Pack Transportation, 1910.

How to Turn the Crupper.

See section 22, Manual for Pack Transportation, 1910.

SEC. 22. The "near" packer takes hold with left hand on lower edge of crupper, fingers under, the right palm down, near the dock; the "off" packer takes hold similarly, hands reversed; both raise crupper well up, press forward with palms, bringing edge of crupper toward them with the hand, and crupper is turned.

The quicker the action the easier turned.

How to Cinch an Aparejo.

See section 23, Manual for Pack Transportation, 1910.

It is important to remember that with *all* newly *set up* aparejos, before the action of cinching the aparejo is completed, i. e., after the primary cinch has been taken by the near packer, it is essential to place an individual on the aparejo (as an aid to compress the aparejo) so that it may assume the contour of the animal's body.

In this operation, after the individual is seated on the aparejo, give sufficient slack on the cincha to permit the aparejo, at its collar and center stitch line, to closely hug the animal's withers and backbone, and then proceed with the cinching of the aparejo in the customary manner. When the individual dismounts it will be noted that the aparejo will rise to its normal and proper position on the animal's body, giving a clearance of from 3 to 4 inches above the animal's withers and backbone. This operation should be continued for a few days, until the ribs and padding of the aparejo assume the contour of the animal's body. Should the individual be timid to ride the aparejo any ordinary loading may be employed, preferably two side packs, weight from 250 to 300 pounds.

With the aparejos used by the Quartermaster Corps the green willow sticks yield more readily to cinching, so that one or two similar operations are sufficient to break in the aparejo.

This practice is referred to by packers as *breaking in* the aparejo, i. e., causing the aparejo to assume its correct position.

To explain: In *setting up* the aparejo with willow sticks, as employed by the Quartermaster Corps, the butt, or heavy ends, are

placed in the boots; the tops, or light ends are placed at collar and center stitch line in each panel of the aparejo, so that the tapered or top ends the more readily will compress to the body of the animal, inasmuch as the greater portion of the boots of the aparejo do not and should not come into contact with the body of the animal; it is obvious therefore that no compression or bending of this portion of the sticks is required, hence the necessity of placing a weight on the newly set-up aparejo before cinching to compress the tapered ends.

On these lines the hickory ribs, as provided for the aparejos used by the mountain batteries and machine-gun platoons, which have a gradual length of taper on each rib from front to rear, following the lines of the willow stick aparejo as employed by packmasters of the Quartermaster Corps, owing to the greater resistance to compression of the hickory ribs a long period of time is required to *break in* the hickory ribbed or Daly aparejo.

The completion of the padding over the boots and saddle bars is followed on similar lines as in forming the boots and saddle bars with hay, as obtained in the Quartermaster aparejo.

Forming the Load Preparatory to Loading the Animal.

See section 24, Manual for Pack Transportation, 1910.

How to Lift Side Packs and Place Them on the Aparejo.

See section 26, Manual for Pack Transportation, 1910.

How to Cross Sling Side Packs When Top Packs Are Necessary.

See section 30, Manual for Pack Transportation, 1910.

How to " Brake " a Side Pack.

See section 28, Manual for Pack Transportation, 1910.

Lashing the Load—How to Form the Diamond Hitch.

See section 32, Manual for Pack Transportation, 1910.

Taking Off the Load and Aparejo—How to Take Off the Lash Rope and the Load.

See section 42, Manual for Pack Transportation, 1910.

How to Uncinch an Aparejo and Turn the Crupper.

See section 43, Manual for Pack Transportation, 1910.

How to Take Off an Aparejo.

See section 44, Manual for Pack Transportation, 1910.

How to Do Up a Lash Rope.

See section 11, Manual for Pack Transportation, 1910.

How to Do Up a Sling Rope.

See section 12, Manual for Pack Transportation, 1910.

How to Do Up a Lair Rope.

See section 13, Manual for Pack Transportation, 1910.

Schaller Forge.

(Plate XVII.)

This forge is a portable folding device. The body is a flange or sheet-steel box approximately $22\frac{3}{4}$ inches long by $16\frac{5}{8}$ inches wide by $6\frac{5}{8}$ inches high, stiffened and reinforced with steel bands. The iron legs fold up into this box when not in use, and the blower, sprocket wheel, etc., are also stored in this box. When the forge is to be used the lid is opened, the legs withdrawn on their hinges, and the leg tie-rods snapped into position, the blower is set in place, and the whole forge is then inverted and set up on its legs. The fire box is of cast iron and is approximately $7\frac{1}{2}$ by $5\frac{1}{2}$ inches inside and $1\frac{1}{2}$ inches deep. The blower is of sheet steel, tin plated, and is 10 inches outside diameter. It is driven through a sprocket and chain by a hand-wheel, which is removed and packed in the body of the forge when not in use. There are steel plate shields provided which furnish the fire protection from the wind when necessary.

There is with the forge another steel chest of approximately the same size and shape as the forge body, which chest carries the anvil and complete set of blacksmith's tools. The blacksmith's tools carried in the troop pannier are taken from this set.

Bacon and Condiment Chests, Model of 1910.

The bacon chest, model of 1910, is made of poplar and is 26 inches long by 23 inches wide and $14\frac{5}{8}$ inches high, outside measurements. The corners and edges are reinforced with steel corner irons screwed to the body. The cover is hinged and secured by hasps, which are locked by leather fids. There are iron handles screwed to the ends of the chests.

The interior of the chest and lid is lined with tin with soldered joints. The outside is painted olive drab and the word "Bacon" is stenciled in 1-inch letters on the front and ends of the body.

The condiment chest, model of 1910, is similar in construction to the bacon chest. It is 23 inches long by 13 inches wide by 14½ inches deep, outside measurements. The interior is oiled with linseed oil and is divided by a partition running crosswise into large and small compartments. The large compartment contains the coffee and sugar containers and the small compartment is designed for carrying the salt and other articles.

The word "Condiments" is stenciled in 1-inch letters on both ends of the body.

The Cleaning Rod (Jointed), Model of 1913, and Case.

This rod is identical with model of 1910 except the size of screw joints, and is made of half-hard brass rod one-fourth inch in diameter. There are three long sections—the handle section, second section, and swivel section—which are connected when in use by screw joints. When a flannel patch is to be used the patch section is screwed into the swivel section. When it is desired to use the brush (in the butt of the rifle), screw the brush section into the swivel section in place of the patch section and then screw the brush into the brush section. The brush section is a very small piece about 1 inch long, and when the rod is not in use is screwed into the second section of the rod to prevent loss.

There are two models of jointed cleaning rods in the service, the models of 1910 and 1913; the latter, a modification of the former, has stronger joints and has been manufactured since May 14, 1913. The parts of the two models are not interchangeable except the assembled parts above and below the joint between the swivel section and swivel, which joint is common to both models of rods.

The jointed cleaning rod is intended for field service only, the barrack cleaning rod to be used for camp and garrison service.

The cleaning rod case is made of olive-drab cotton duck and has a flap and snap fastener to secure the flap.

To Load the Army Wagon.

The tail gate is let down to practically the horizontal, and the field range is placed upon it, the bacon and the condiment boxes go together, back of condiment box against handle of bacon box at the rear end of the wagon bed. They were designed to accurately fill that space. The boxes of hard bread go on the floor of the bed in front of the above-mentioned boxes. Whatever space remains on the

floor of the bed is filled with surplus kit bags—the remaining authorized load is then placed on in suitable layers, the coarser and heavier packages placed lower down and the lighter and frailer above, except that tentage is placed near top. The tent poles are wired to the hangers on the outside, carrying the extra tongue, reach, etc. If care is taken in placing the authorized load in the wagon, ample space will exist for carrying the bed blankets and the cantle rolls of 100 troopers.

Improvising a Picket Line.

When the field picket line has been for any reason left behind, one may be improvised readily from the lariats and picket pins of the troopers. To give a line of sufficient strength the lariat should be doubled. This may be done in either one of two methods—the double lariats may both be attached on the same picket pin or one of each two may have its attachments made on intermediate pins, thus giving the effect of “breaking joints.” To form a line by the first method: Drive the first pin through the ring of the first lariat, snap the hook of the other lariat of the first couple into the ring of the lariat through which the first pin is driven. Extend both lariats in the desired direction, draw snug, and drive the second pin through the ring in the lariat whose hook is snapped into the first ring. Snap the hook of the other lariat into the same ring through which the second pin is driven. Prolong this line indefinitely in the same manner.

To form a line by the second method: First drive a pin through a ring of the lariat, carry the hook end of this lariat through the ring of the second lariat and extend the line in desired direction. Slide the ring of the second lariat along to a point about midway on first lariat and drive the second pin through it at this point. Snap the hook of the first lariat into the ring of the third lariat. Draw the first lariat snug by pulling on the third, and drive the third pin through the ring of the third lariat. Pass the hook of the second lariat through the ring of the third lariat and extend in the proper direction. Snap the hook of the second lariat into the ring of a fourth, draw the second snug by pulling on the fourth, and drive the fourth pin through the ring of the fourth lariat. Continue indefinitely in this manner, pinning down the final hook ends of the line by snapping each hook upon the webbing of its respective lariat so as to form a loop of the proper size, and driving a picket pin through it.

The Cavesson and Longe.

These articles are recommended supplied for training purposes, at the rate of one to each 30 horses, or major fraction thereof,

The cavesson consists of the following parts:

A *noseband* of malleable iron, bronzed, which is hinged at the center and on each side, making four pieces in all. To the center hinge is fastened a swivel and ring. The metal noseband as above is lined with a 7 to 8 ounce collar-leather-pad reinforce, to which is fastened a *gray felt pad* $\frac{1}{2}$ inch thick. The felt pad and its outside leather reinforce is fastened to the metal noseband by six small noseband straps. The rear end of the noseband are connected by a *noseband billet and chape* of bridle leather, $9\frac{1}{2}$ to $10\frac{1}{2}$ ounces, and $\frac{3}{4}$ inch wide. This piece has a buckle and four holes for adjustment.

Attached to the nose band on either side is a *cheek piece*, of $9\frac{1}{2}$ to $10\frac{1}{2}$ bridle leather 1 inch wide and 9 inches long, with a buckle at the upper end. These cheek pieces buckle on to the lower ends of the *crown piece*, which is of the same kind of leather. This piece, however, is cut $1\frac{5}{8}$ inches wide, and the lower ends split into a 1-inch strap which fastens to the cheek pieces and a $\frac{5}{8}$ -inch strap which fastens to the *throat latch*, a strap of $9\frac{1}{2}$ to $10\frac{1}{2}$ bridle leather $\frac{5}{8}$ inch wide and $17\frac{3}{8}$ inches long. Below the throat latch the *cheek piece, billet, and chape* are stitched to the cheek piece. These two assembled form a strap of $9\frac{1}{2}$ to $10\frac{1}{2}$ bridle leather $\frac{3}{4}$ inch wide and $21\frac{3}{4}$ inches long.

The *longe* is made of $\frac{5}{8}$ -inch olive-drab cotton webbing, oval in section and 30 feet long: On one end is fastened by a $2\frac{3}{4}$ -inch lap a $\frac{7}{8}$ -inch swivel eyebolt snap, bronzed.

The Breast Strap.

(Plate XIII.)

This article consists of the following parts:

A *choke strap* of $9\frac{1}{2}$ to $10\frac{1}{2}$ ounce bridle leather $1\frac{1}{4}$ inches wide and assembled length $41\frac{1}{2}$ inches long. The forward end of this strap ends in a lap holding a $1\frac{3}{4}$ -inch bronzed ring, and the rear end carries a $1\frac{1}{4}$ -inch buckle and doubles back on itself to form a loop adjustable in length $6\frac{1}{2}$ to $12\frac{1}{2}$ inches.

Two buckle pieces, which are straps of $9\frac{1}{2}$ to $10\frac{1}{2}$ inch bridle leather, $\frac{7}{8}$ inch wide and assembled length of $14\frac{1}{4}$ inches. The lower ends of these pieces are looped into the $1\frac{3}{4}$ -inch ring on the forward end of the choke strap, and the upper ends carry $\frac{7}{8}$ -inch roller buckles:

Two billets of $9\frac{1}{2}$ to $10\frac{1}{2}$ ounce bridle leather, $\frac{7}{8}$ inch wide and $13\frac{1}{8}$ inches long. The lower ends of these pieces buckle into the buckles on the upper ends of the buckle pieces, and their upper ends terminate in $1\frac{1}{4}$ -inch bronzed brass rings on either end of the neck strap.

The *neck strap* is a plain strap, $9\frac{1}{2}$ to $10\frac{1}{2}$ ounce bridle leather, $1\frac{3}{4}$ inches wide and $15\frac{1}{4}$ inches long, carrying at each end the $1\frac{1}{4}$ -inch rings above mentioned.

Two *saddle straps*, of bridle leather $17\frac{1}{4}$ inches long, are looped one into each $1\frac{1}{4}$ -inch ring on the neck strap. These straps double back on themselves to form adjustable loops for attaching the whole breast strap to the saddle.

This article has been devised to meet the necessity, which occasionally arises with a horse of poor conformation, of keeping the saddle in place without severe girthing. These articles will be issued not to exceed three per troop, under ordinary circumstances. It is possible none at all may be needed in many troops. Their use and adjustment is simple.

The Horse Cover.

This has been devised to avoid, as far as may be, the chafing of the animal complained of in the old pattern. The surcingle in the new pattern cover is detachable, and no other surcingle is provided. In case one is needed for purposes other than keeping the cover in place, that pertaining to the horse cover must be employed. None need be carried on the march (unless covers themselves are carried); the cooling strap will serve all purposes there.

Stable Halter.

(Plate VIII.)

This halter is made up of the following essential parts:

A *crownpiece* of olive-drab webbing $1\frac{3}{8}$ inches wide, $2\frac{1}{2}$ ounces per yard, cut $37\frac{3}{4}$ inches long. To its two extremities are secured by 2.5-inch stitched taps 1-inch tongueless bar buckles, which with the two crownpiece chapes secured to the side rings by a 3-inch stitched lap form a means of adjustment for the halter. The *crownpiece chapes* of the same material as the crown piece are cut $18\frac{3}{8}$ inches long.

A *throat latch* of olive-drab webbing 1 inch wide, $1\frac{1}{8}$ ounces per yard. The throat-latch billet piece is cut 28 inches long, and is stitched to the crownpiece $5\frac{1}{4}$ inches from the exact top of the crownpiece on the off side, and passes down through the tongueless bar buckle on the throat-latch chape. The chape is of the same material, but cut 6.7 inches long. It is stitched to the crownpiece on the near side $5\frac{1}{4}$ inches from the exact top and carries a 1-inch tongueless bar buckle, by being stitched double on itself.

A *noseband* of olive-drab webbing $1\frac{3}{8}$ inches wide, $2\frac{1}{2}$ ounces per yard, cut $17\frac{1}{2}$ inches long, with a $2\frac{1}{2}$ -inch stitched lap at each end where it joins the side rings.

A *jowl* of olive-drab webbing, $1\frac{3}{8}$ inches wide, $2\frac{1}{2}$ ounces per yard, cut 28 inches long. This piece has a $7\frac{1}{8}$ -inch stitched lap on each

end for fastening to the side rings, and when assembled is $11\frac{3}{4}$ inches long, thus forming for 4 inches at the center three thicknesses of webbing to resist the wear of the tie-rope ring.

Two stay pieces of olive-drab webbing, 1 inch wide, $1\frac{1}{2}$ ounces per yard, cut 4 inches long. These pieces are stitched to the forward side of the crownpiece and the noseband just above the side rings at an angle of about 45° , and serve to support the noseband in proper position.

A *halter-tie* rope of $\frac{1}{2}$ -inch diameter manila rope, the same as the tie rope used on the bridle.

Three malleable-iron rings, bronze finish, $\frac{1}{4}$ -inch wire and 2 inches inside diameter, two for side rings and one on jowl for attaching tie rope.

All webbing used in the halter has round edges to prevent chafing. At all points where the stitched laps wear on the rings a piece of brass-wire gauze is used to line the webbing to prevent wear.

This article serves to secure the horses in the stable or on the picket line in garrison. It should be used for no other purpose. The responsibility for these halters for a single troop should be borne by the stable sergeant and not distributed among the several troopers, and the halters should never be removed from the immediate vicinity of the stables. In case it becomes necessary to repair them, leather will answer in the absence of webbing. It has been recommended that each troop be issued a small amount of webbing for repair purposes. A new snap may be spliced on, or a new wrap made at free end of tie, as indicated, under the bridle.

Water Tank.

This tank consists of three principal parts, as follows:

A *frame* made of standard $\frac{3}{4}$ -inch galvanized-iron pipe. This frame consists of four quarter-circle arcs jointed together with dowels to admit of quickly setting up or taking apart, forming, when assembled, a circle of 73 inches diameter. This large ring is supported at its joints by four legs of the same size pipe cut $17\frac{1}{2}$ inches long. These legs are threaded at each end, the upper end screwing into a standard $\frac{3}{4}$ -inch iron T, through which the joining dowels of the ring pass, the lower ends of the legs being screwed into standard $\frac{3}{4}$ by 4 inch floor flanges, which serve as feet.

A *container*, made of No. 4 olive-drab cotton duck, piece dyed, made into a large, double-thick, water-tight tank, approximately 5 feet 9 inches diameter and 18 inches high. The upper edge of this container has $38\frac{3}{4}$ -inch galvanized-iron rings equal space around the top of the container, through which the lash rope passes.

A *lash rope*, a plain manila rope, $\frac{1}{4}$ -inch diameter cut 28 feet 10 inches long, which is lashed through the rings in the top edge of the container and around the frame.

The capacity of the tank is from 250 to 300 gallons. Ten or twelve horses can water at once. It weighs about 60 pounds and will go readily either in the wagon or on a pack animal.

Guidon and Standard Carrier.

(Plate XIII.)

This article is made of a 7 to 8 ounce collar leather and consists of a body which is a slightly conical tube 6.3 inches long and approximately $1\frac{1}{2}$ inches diameter at the top, the bottom being closed by stitching. The body is suspended from the pommel of the saddle by a strap of 7 to 8 ounce collar leather $\frac{5}{8}$ inch wide, which has a bronzed buckle for adjustment.

The Tape, 5 Feet.

This is a steel pocket tape, issued to first sergeants for use in the field or elsewhere. It should be kept well oiled and free from rust.

The Officer's Saddle.

(Plate II.)

The officer's saddle differs from the service saddle mainly in the shape of the seat, which is flatter and slightly longer, and in the fact that there is no projecting cantle roll support. An extra staple is secured to the underside of the cantle in lieu of this support. This saddle is also made in two sizes.

The stirrups are bright and the saddle is given a slightly better finish throughout than the service saddle. The remarks as to care and use, on pages 13 and 14 under the service saddle, apply with equal weight to the officer's saddle.

The Officer's Pommel Pockets.

These are attached in a manner similar to that stated under the service pommel pockets. The contents vary somewhat. The off pocket carries meat can in a cloth case, knife, fork, and spoon in smaller leather compartments, a folding lantern, if desired, in a compartment nearest the horse, and calkins, when needed, in lower part of main compartment. The near pocket carries canteen, cover, and cup, and cooling strap in main compartment, wire cutters in their own compartment, and has also a special compartment nearest the horse for official papers.

The Officer's Saber Carrier.

(Plate V.)

The officer's saber carrier is made to carry the officer's garrison saber scabbard only. It would, therefore, be used by officers in garrison only. It is similar to the service carrier, but somewhat smaller. It is carried on the off side of the saddle.

Officer's Garrison Saber Scabbard, Model of 1913.

The officer's garrison saber scabbard is made of sheet steel and is lined with pine. The mouthpiece of the scabbard forms a spring which grips the saber and prevents rattling. Near the mouth, at equal distances therefrom and on opposite edges, rings are secured which are used to hold the scabbard in the saber carrier and with which the saber attachment is engaged. The scabbard has a nickel-plated finish.

The Officer's Belt.

(Plate IX.)

The belt is of leather and is the same as the officer has worn for several years, with the following additions:¹ A magazine pocket, leather, holding two magazines, like that used on the enlisted men's garrison belt; a slide for pistol holster, a slide for first-aid pouch, and a slide for canteen when dismounted.

The leather saber attachment formerly used is replaced by a chain saber attachment, as shown in Plate IX. This chain saber attachment is of 27 per cent nickel steel throughout and is finished bright.

Marking of Equipments Issued to Trooper.

Articles made of wool, canvas, drilling, or webbing will be marked by stenciling, while articles of metal will be stamped with the steel dies contained in the marking outfit for stamping metal, and leather equipments with the bronze dies issued with the marking outfit for stamping leather. When stamping is placed near letters "U. S.," as placed by the Ordnance Department, stamp under those letters. When using the personal-equipment stencil with crossed sabers in connection with letters "U. S.," comply with the requirements of paragraph 295, A. R., 1913, as amended. Use the crossed sabers of this stencil only on the articles indicated below.

All marking in which the crossed sabers are not employed should consist of the regimental number, the troop letter, and the soldier's

¹ Slides are placed on belt in following order from right to left, viz: Pistol, canteen, first-aid pouch, saber, pistol-magazine pocket.

number, in the order named, either in a horizontal line or a vertical column. In employing either method a sufficient and clear space should be left between the regimental number and troop letter and soldier's number, which in the case of stenciling should be from one-half to 1 inch.

For stenciling the regimental number and company letter the personal-equipment stencil issued with the stencil outfit may be conveniently used by pasting a piece of paper or cardboard over that portion of the stencil which is not required and using only the number or the letter of the stencil, as may be desired. A set of one-half inch figures is issued with the stencil outfit for stenciling the soldier's number on cloth articles of equipment.

The appearance of equipment has been marred frequently by unnecessarily conspicuous marking and by lack of system in selecting positions for stenciling or stamping. The marking should be placed so as to be easily found on inspection. Marking with ungainly characters and in too conspicuous places is not only objectionable in itself, but becomes a positive eyesore when the equipment has been transferred a few times—especially from one organization to another.

Horse equipments, and the personal equipments of the trooper, will be marked as follows:

Alignment and spacing of letters and numbers will be done with care and regularity.

Bandoleer, Cavalry.—Underside of upper pistol-cartridge pocket, horizontally. Renew marks, if necessary, on middle and lower pockets.

Belt, Cartridge, Cal. .30 Cavalry.—Inside of belt, horizontally, near top of fourth rifle pocket from right end, when on trooper. Re-mark, if necessary, immediately below first marks.

Belt, Pistol.—Horizontally, inside, at middle and near top; regimental number toward right end of belt when on trooper. Sliding web pistol-magazine pockets, vertically on back.

Belt, Garrison, Enlisted Men's.—Horizontally, hair side, buckle end, near top, regimental number next to buckle. All slides horizontally at center on back. Belt-ring pad, cartridge and magazine pockets horizontally on back.

Belt Ring Strap.—Hair side, buckle end, along length of strap, regimental number near metal stud.

Bit, Curb.—On outer side of "near" branch, above and near loop for lip strap, regimental number next to loop.

Bridoon.—On ring, opposite side to letters "R. I. A."

Breast Strap.—On top strap, near left end, lengthwise and at front of strap. Re-mark, if necessary, immediately to rear of first mark.

Canteen Cover.—On front face with crossed sabers as prescribed in A. R.

Cooling Strap.—Outer side, sliding buckle end, regimental number next to buckle.

Carrier Strap.—At front, between girth strap and “near” buckle, on line parallel to girth strap. Re-mark, if necessary, on same line toward rear.

Coat Straps, Double and Also Single Buckle.—On hair side near buckle, regimental number next to buckle.

Currycomb.—On top of body near the center.

Feed Bag.—With crossed sabers, with prescribed letter and numbers, along length of bag at center of underside (when horse is feeding).

Felt Pads for Side Bars.—From front to rear, regimental number near front and top.

Girth.—On buckle leather, near forward end, regimental number toward buckle.

Girth Strap Adjuster.—Along length of strap, outer side, at center of upper half, regimental number toward upper edge.

Grain Bag.—Near center, across width of bag, top of stenciling toward open end.

Hatchet.—On side of batchet, along and parallel to top, regimental number nearest larger opening of eye.

Hatchet Cover.—Center of button stud side, regimental number toward point of flap.

Bridle, Cavalry, Complete—

BROWBAND.—Hair side—near—“near” loop, trooper’s number next to loop.

CHEEK PIECE.—Hair side, under fold of strap, near center, regimental number toward “near” side. Restamp, if required, toward “off” side of first stamp.

THROAT LATCH.—Hair side, along length of strap, near buckle, regimental number next to buckle.

BRIDDOON STRAPS.—Hair side, along length of strap, near buckle, regimental number next to buckle.

THROAT STRAP.—Side next to jaw, near ring, regimental number next to ring.

NOSEBAND.—At rear, from left to right. Restamp, if required, to left of first stamp.

BIT STRAPS.—Hair side, above bit-strap retainer.

REINS, CURB.—Hair side, along length of rein near center, regimental number next to center.

REINS, BRIDDOON.—Hair side, each rein, near hand end, regimental number toward end.

Horse Brush.—Along length of strap, at end, regimental number next to end.

Intrenching Tool Carrier.—Horizontally, at center, outer side, regimental number to rear.

Lariat.—Near snap end, regimental number next to snap.

Meat-Can Pouch.—At center of flap, outside.

Pick.—On concave side of blade, regimental number next to and near head.

Pick Cover.—Center of flap side, regimental number toward mouth.

Picket Pin.—In groove below head, regimental number next to head.

Picket-Pin Case.—On back of case, along length, near strap sewed to top, regimental number next to stitching. Before stamping insert piece of wood.

Picket-Pin Case Straps.—Hair side, near buckle, regimental number next to buckle.

Picket-Pin Carrier, Special.—Hair side of strap attaching to carrier strap, below and near horseshoe pocket, regimental number next to pocket.

Pistol Holster.—Horizontally, and near top of under side of hanger piece, connecting pistol case with hook leather, regimental number to front: Pistol holster strap, near buckle, regimental number next to buckle.

Pommel Pockets.—Horizontally, upper side, immediately above near pommel pocket, regimental number one-half inch from front edge.

Ration Bags.—With crossed sabers and prescribed letter and numbers, horizontally, across bag, back side, at center. Re-mark, if necessary, immediately below first marks.

Record Case, N. C. O.—Horizontally, under side, near center.

Rifle Carrier Boot.—On under side of standing part, one-half inch to rear (on horse) of keep for attaching strap, and parallel thereto, regimental number next to and 2 inches below top.

Rifle Cover.—Near mouth, along and under seam, side opposite rifle bolt.

Saddle.—Horizontally, under side of each jockey, along lower edge. Regimental number toward pommel.

Saber Carrier.—Horizontally, at center, under swivel plate. Re-mark, if necessary, immediately below.

Saber Knot.—Loop at center; body near metal button, regimental number next to button.

Shovel.—Concave side one-half inch below top, and regimental number next to and one-half inch from right edge, looking from top toward point.

Spur Strap.—Upper parts, hair side, near rounded ends, regimental number next to end. Under strap at center.

Stirrup Strap.—Hair side, near buckle, regimental number next to buckle.

Stock Cover.—Near center, regimental number toward lower end.

WAR DEPARTMENT,

OFFICE OF THE CHIEF OF ORDNANCE.

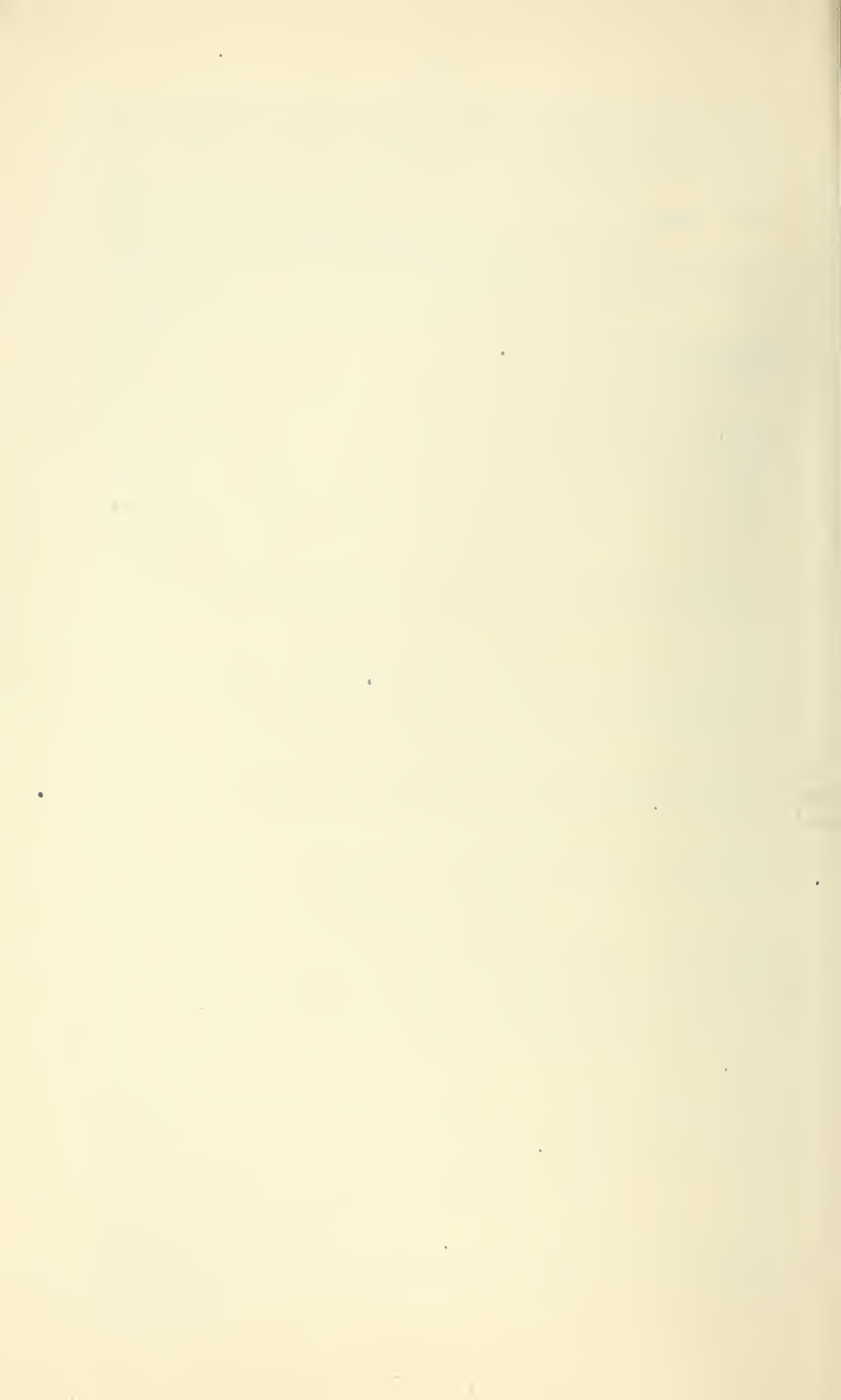
Washington, October 5, 1914.

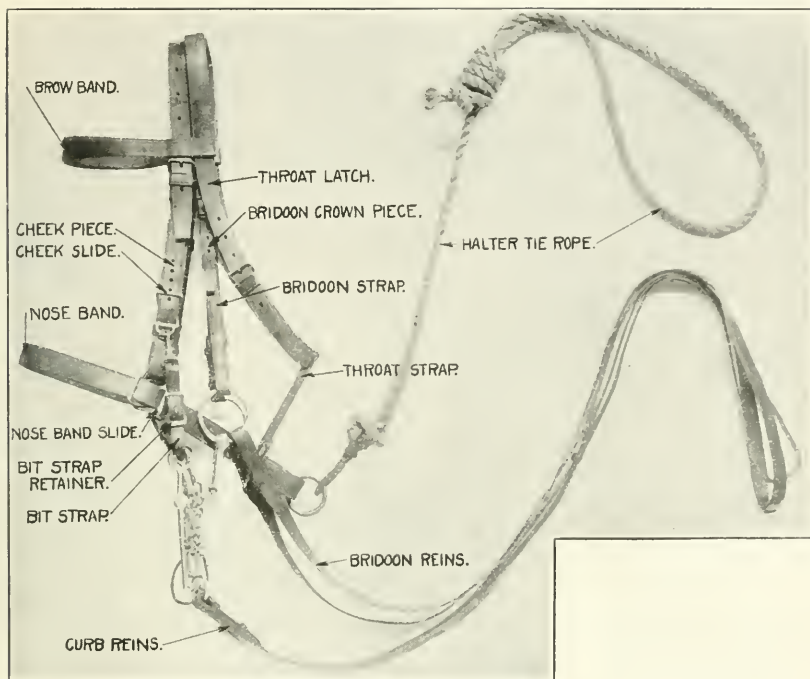
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FORM No. 1715.

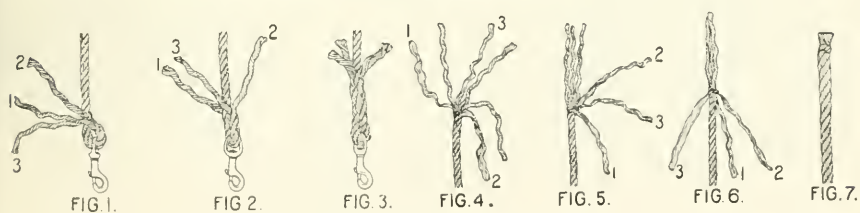
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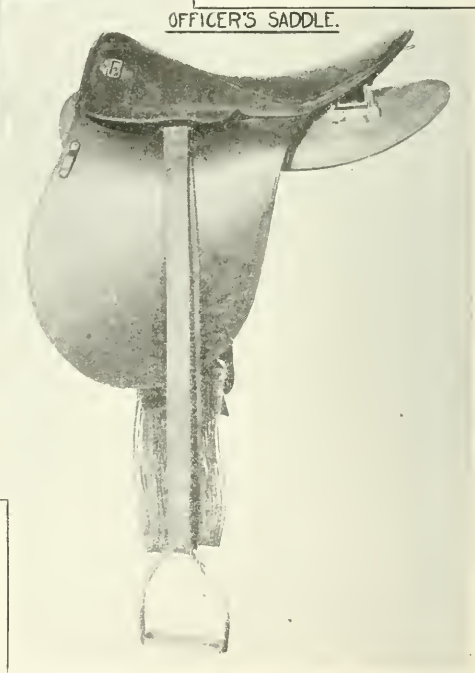
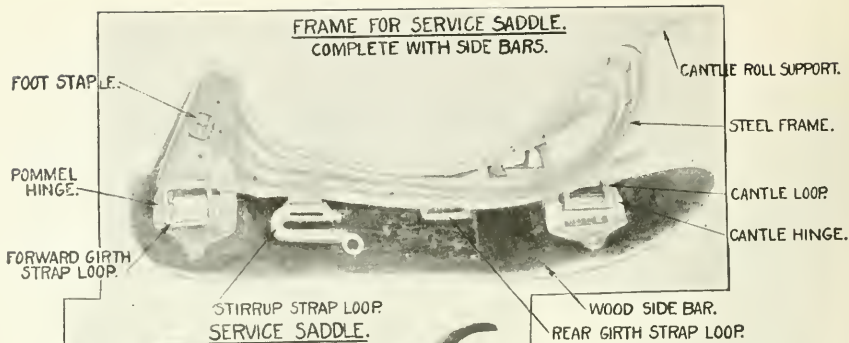




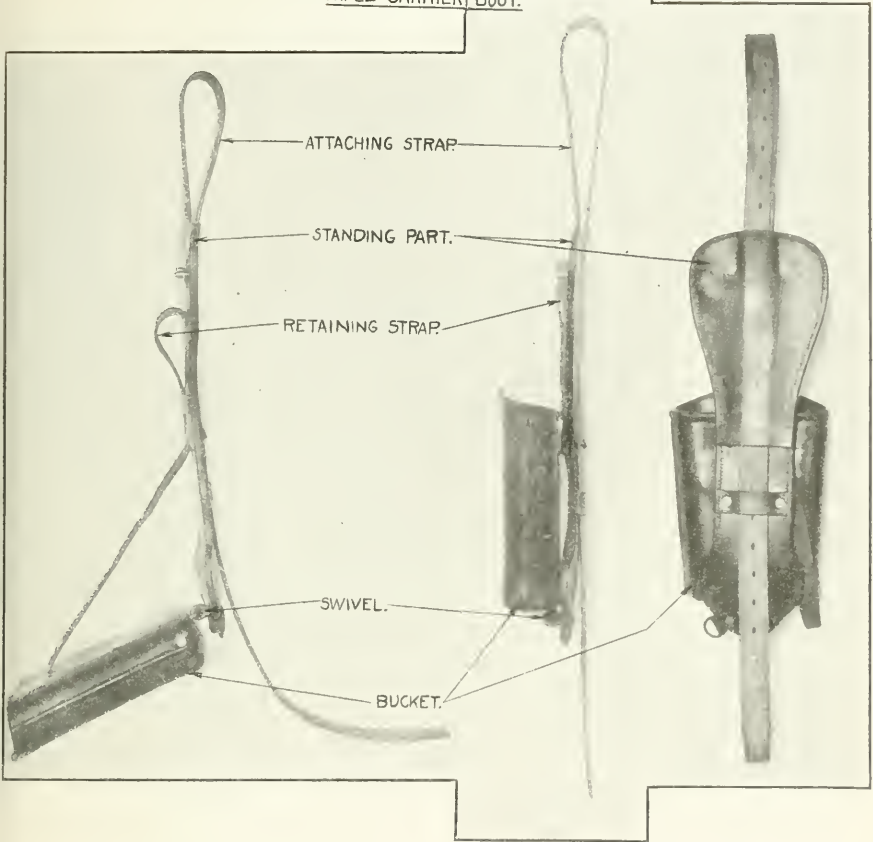
HALTER-BRIDLE, MODEL OF 1912.

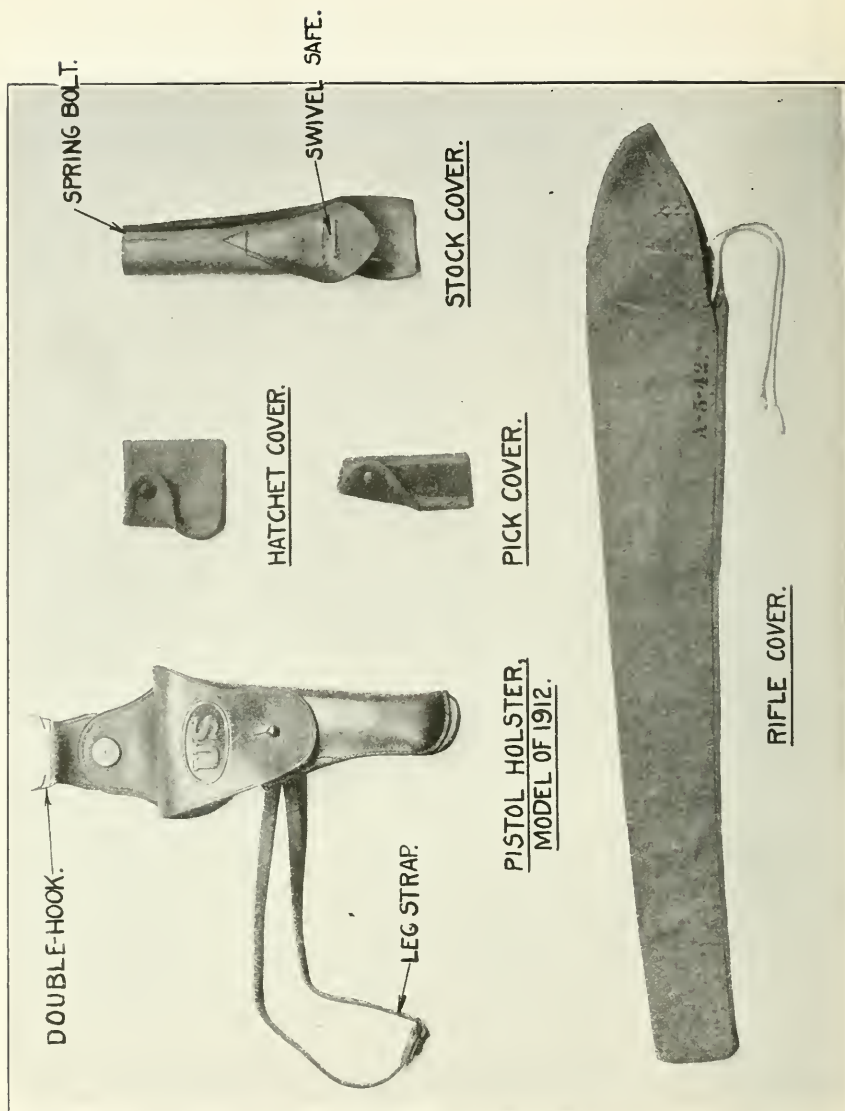


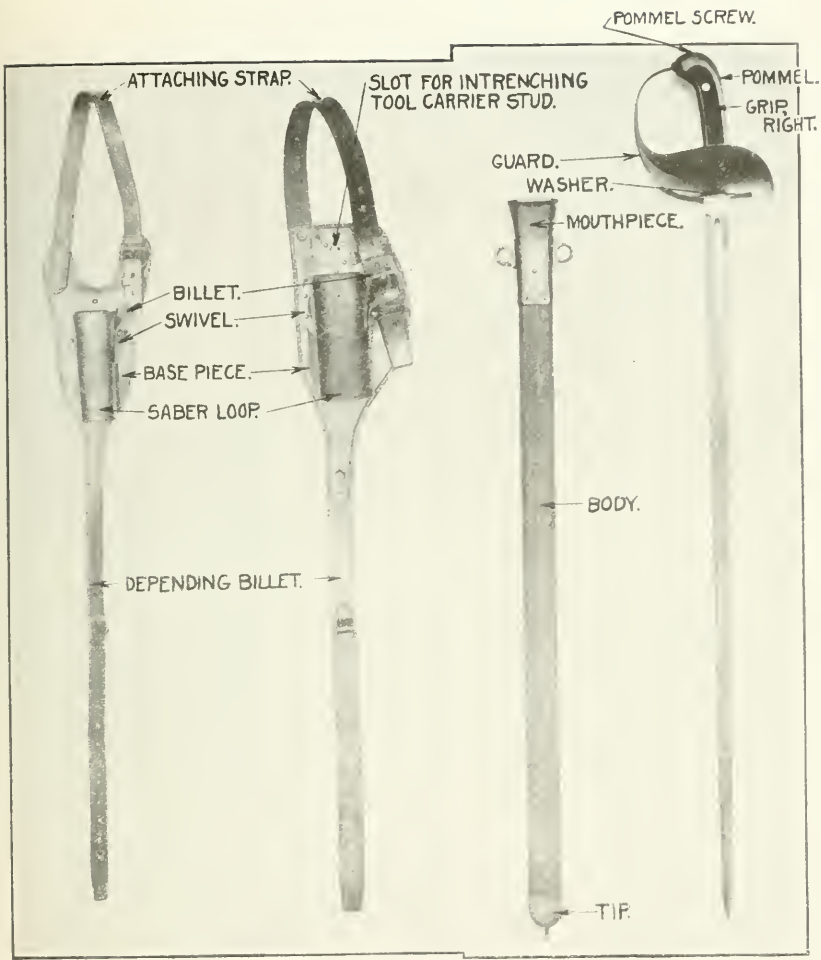
FORMING SNAP-SPLICE AND WRAPPING ROPE END.



RIFLE CARRIER BOOT.





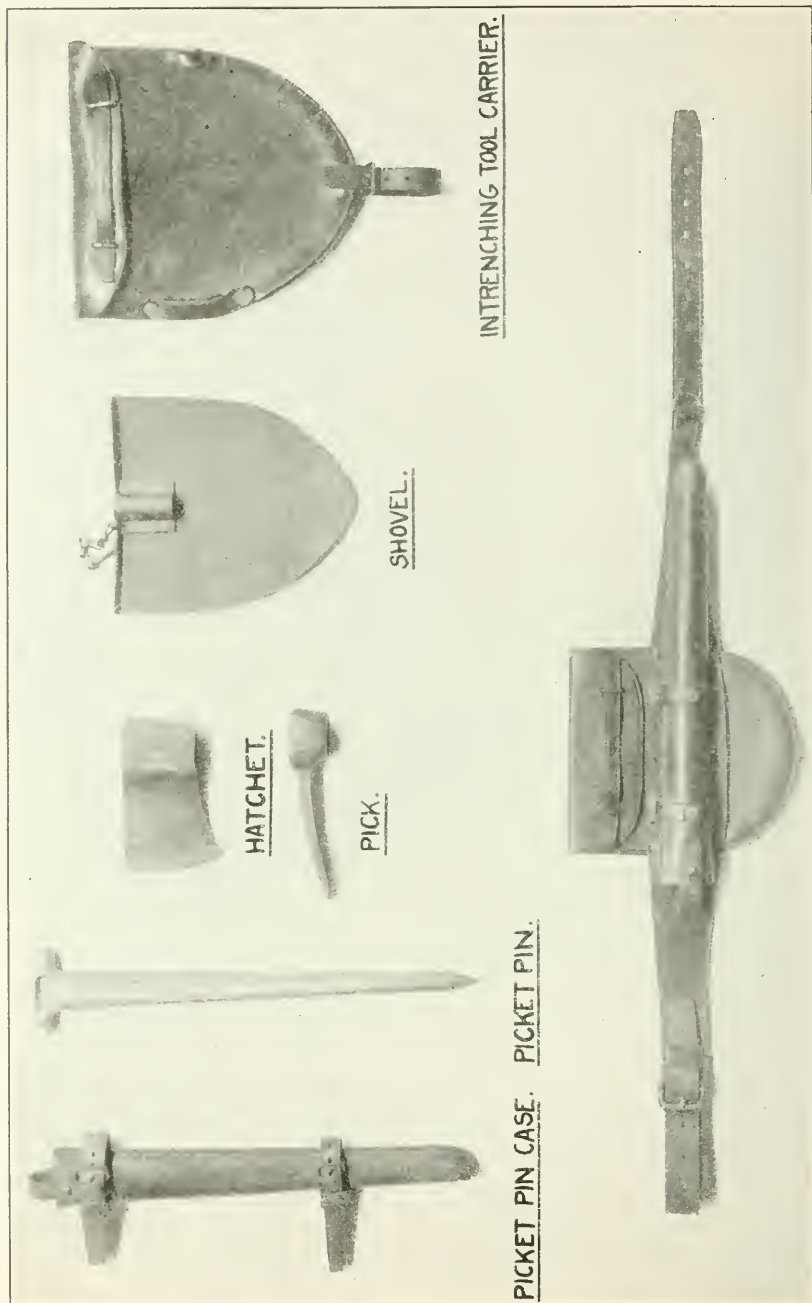


SABER CARRIER,
OFFICER'S.

SABER CARRIER,
SERVICE.

SABER SCABBARD,
SERVICE.
MODEL OF 1913.

CAVALRY SABER,
MODEL OF 1913.



INTRENCHING TOOL CARRIER.

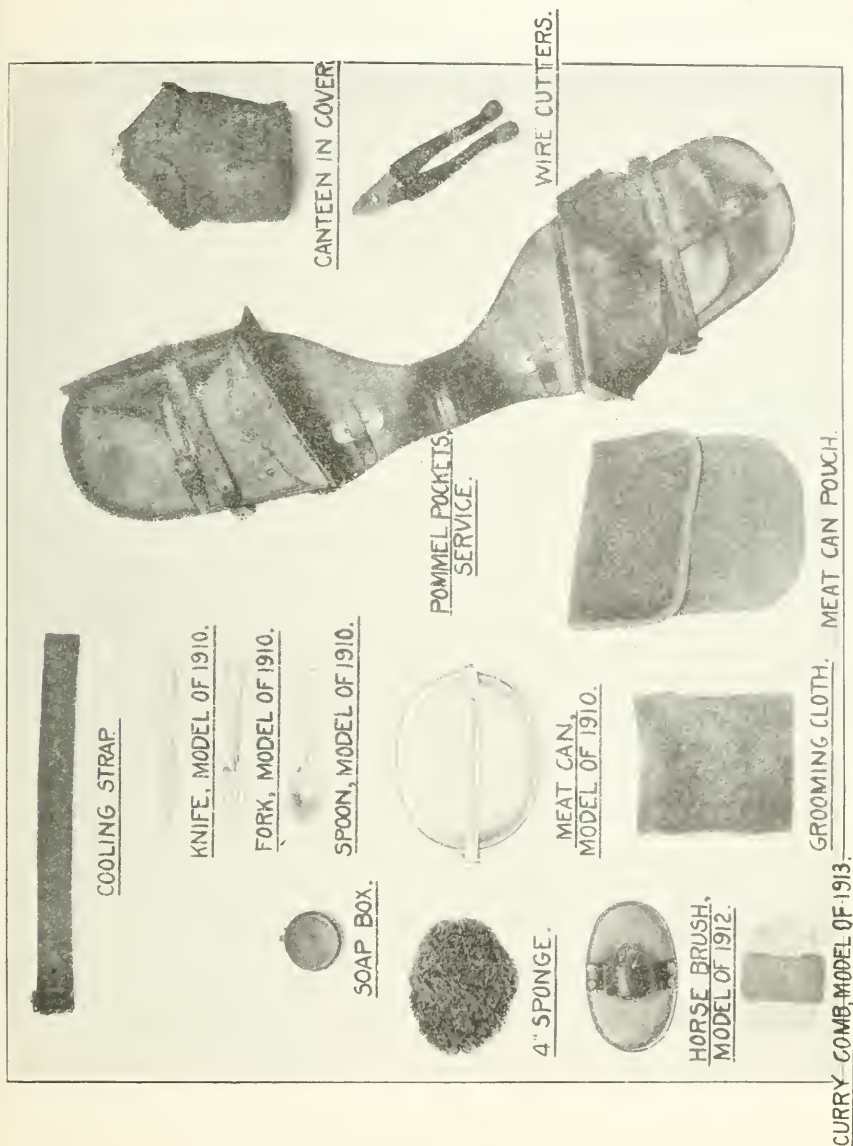
SHOVEL.

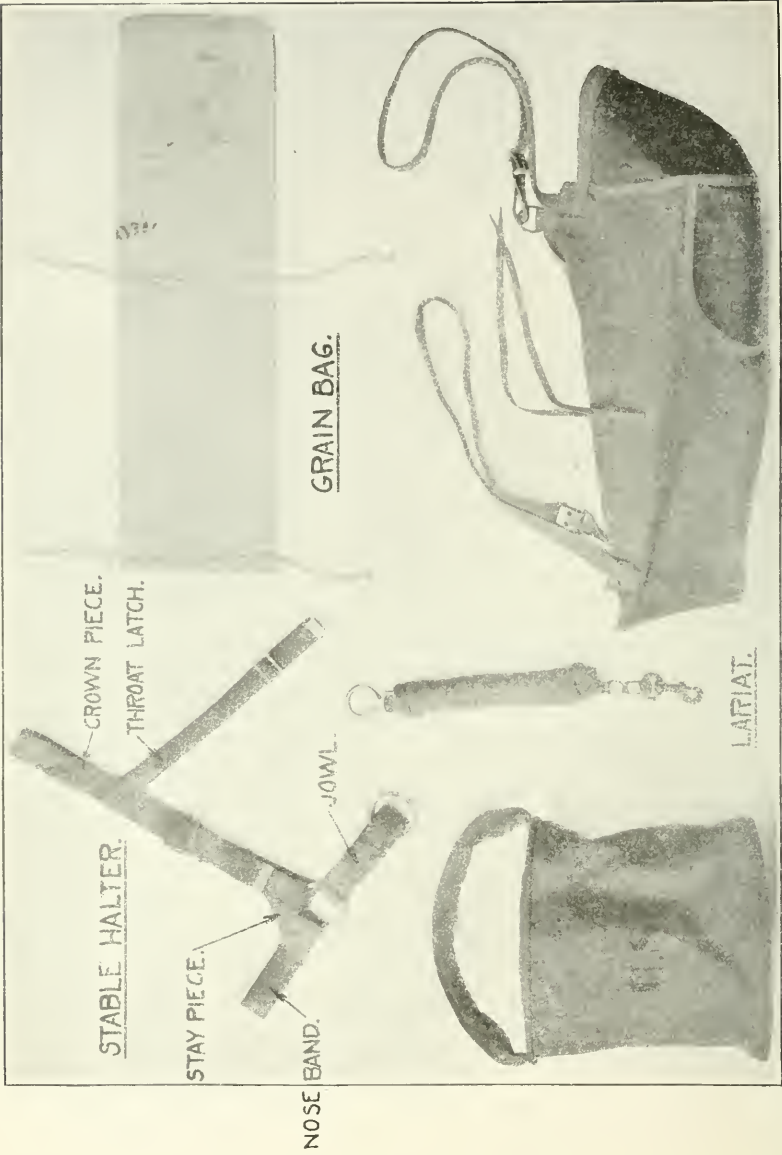
HATCHET.

PICK.

PICKET PIN CASE. PICKET PIN.

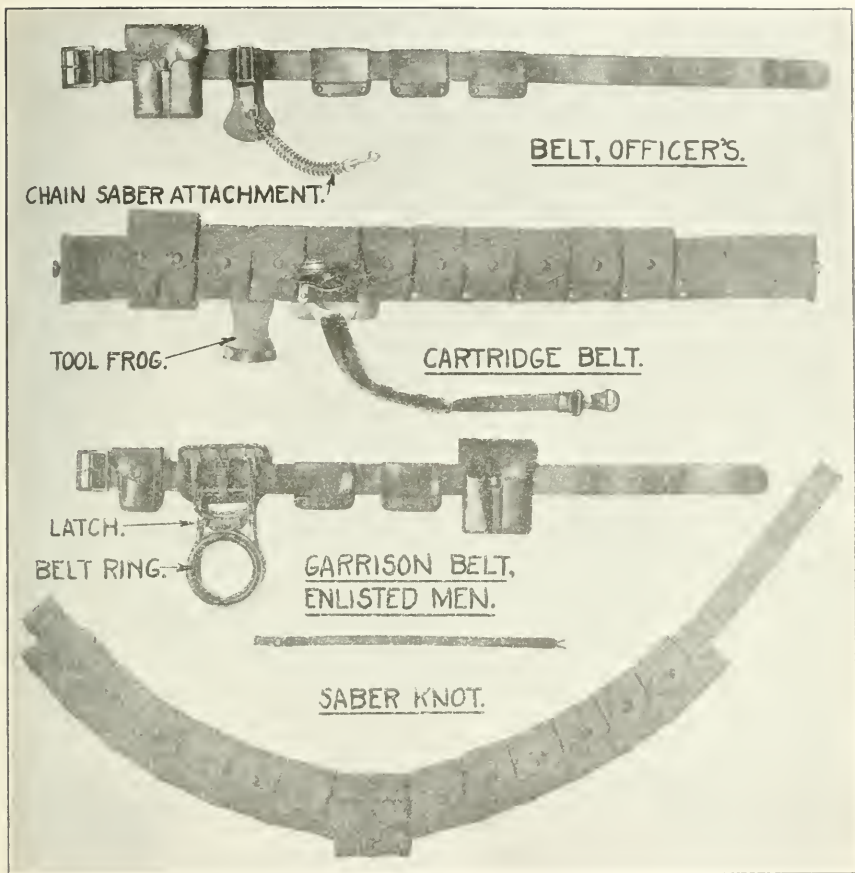
SPECIAL PICKET PIN CARRIER.



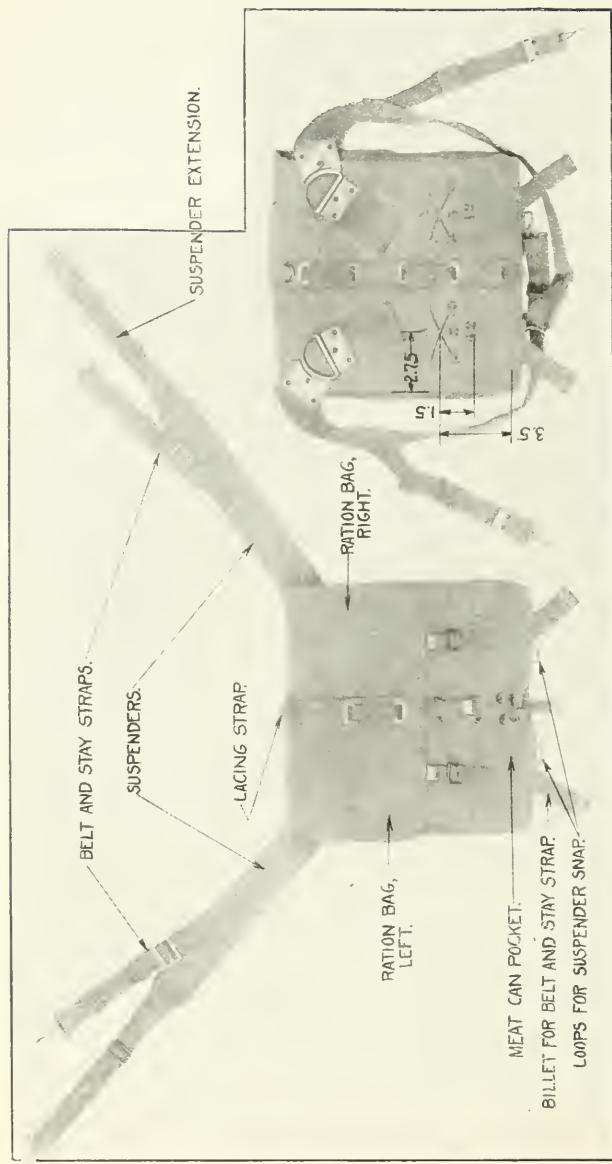


FEED BAG.

WATER BUCKET.



BANDOLEER.



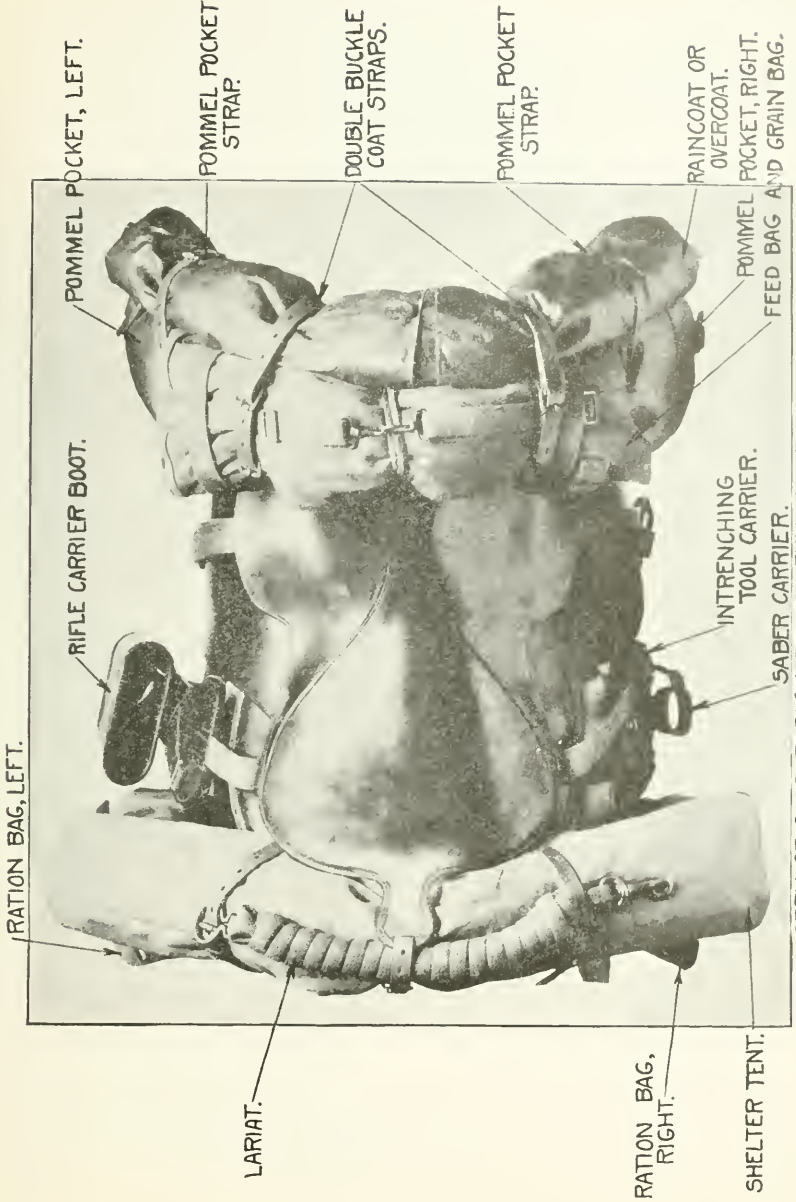
RATION BAG ASSEMBLED INTO KNAPSACK.

KNAPSACK READY TO SLING ON THE BACK.

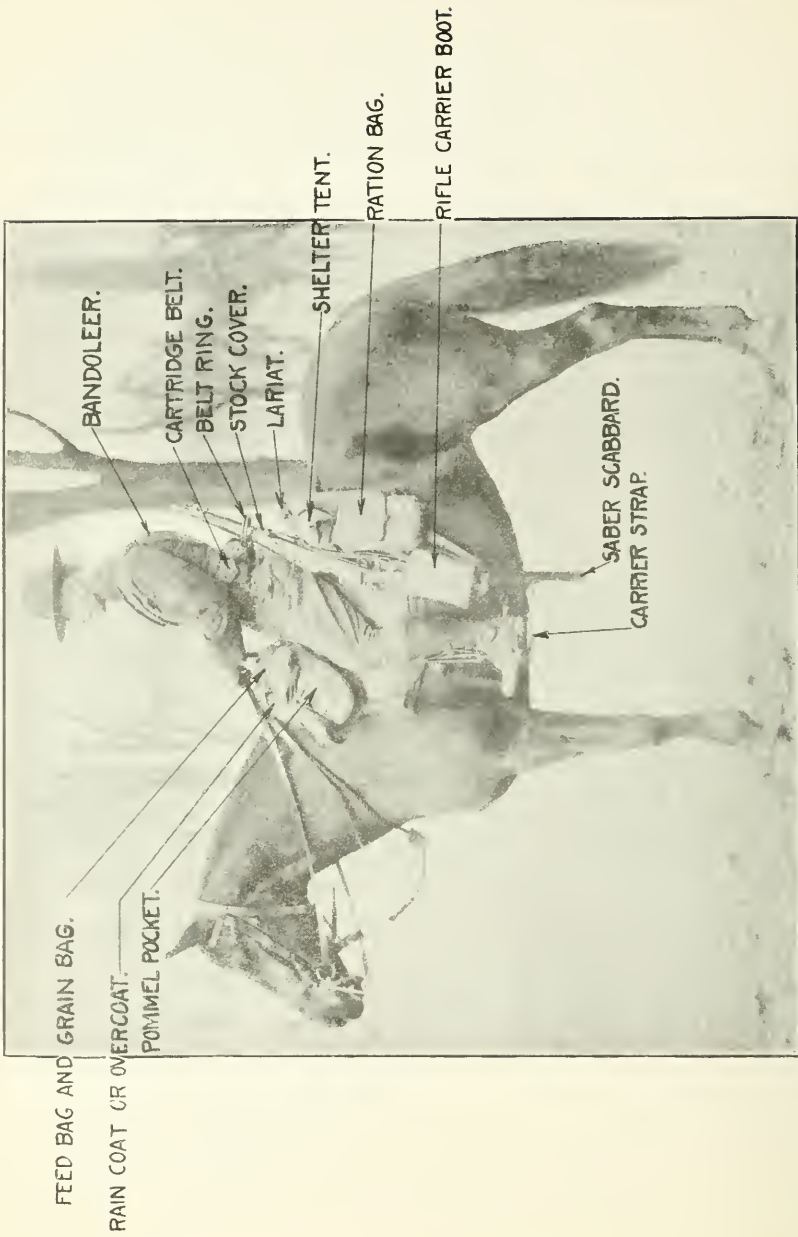


METHOD OF CONNECTING RATION BAGS BEFORE PLACING ON CANTLE END OF SIDE BARS.

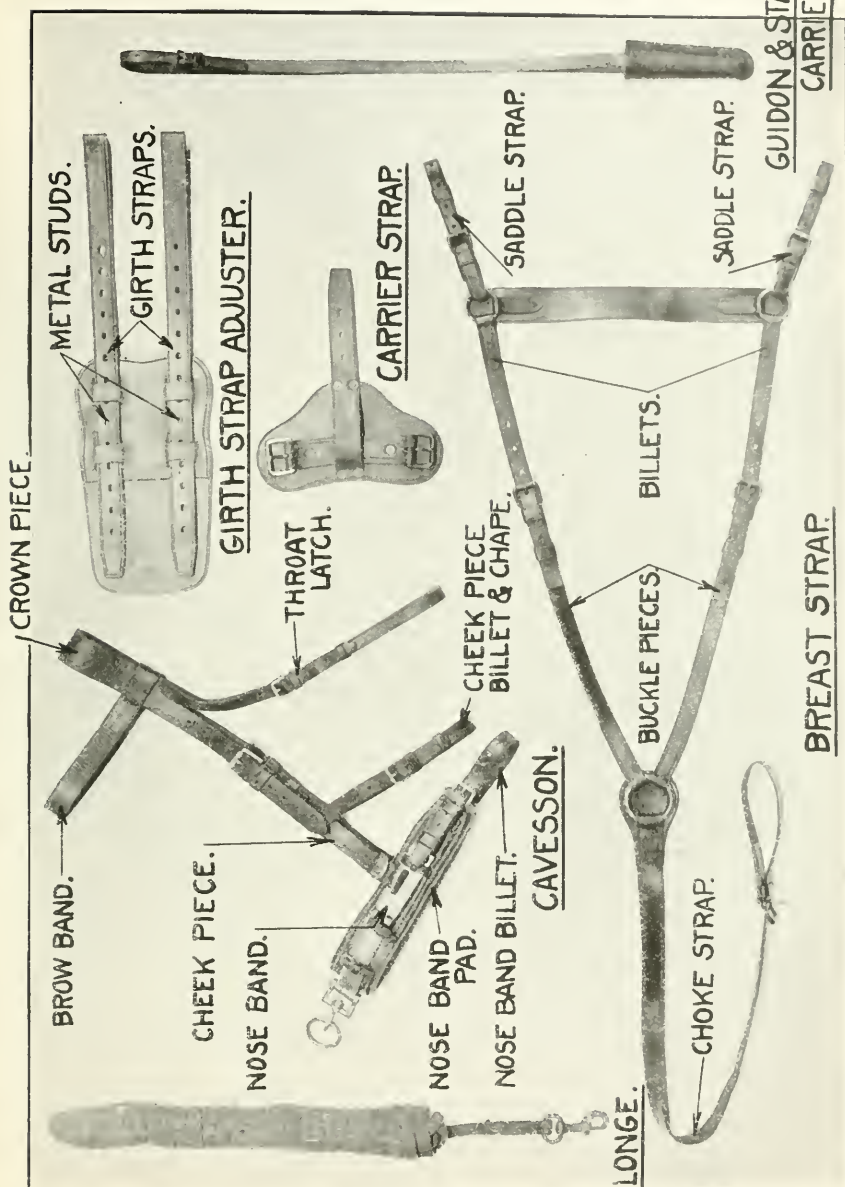
RATION BAGS, MODEL OF 1912.

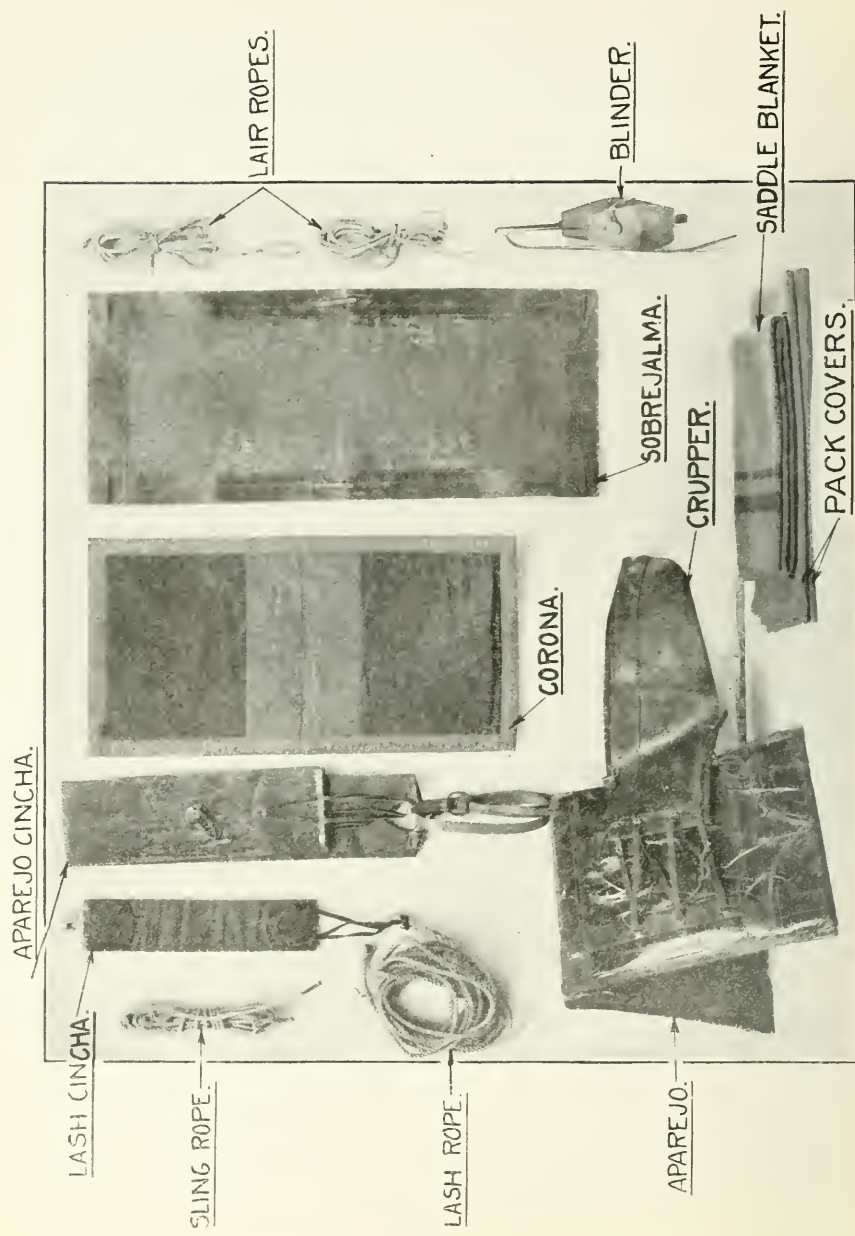


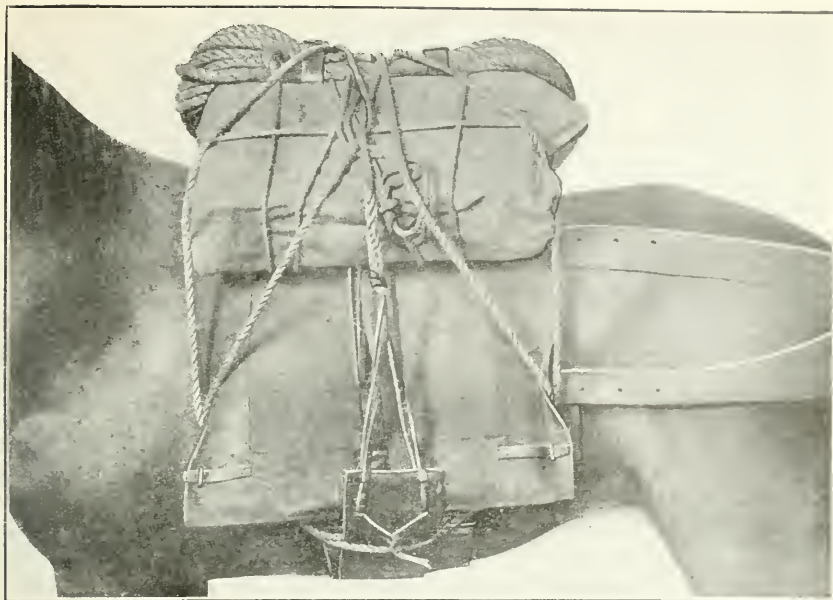
SERVICE SADDLE, PACKED WITH FULL EQUIPMENT,
VIEWED FROM ABOVE.



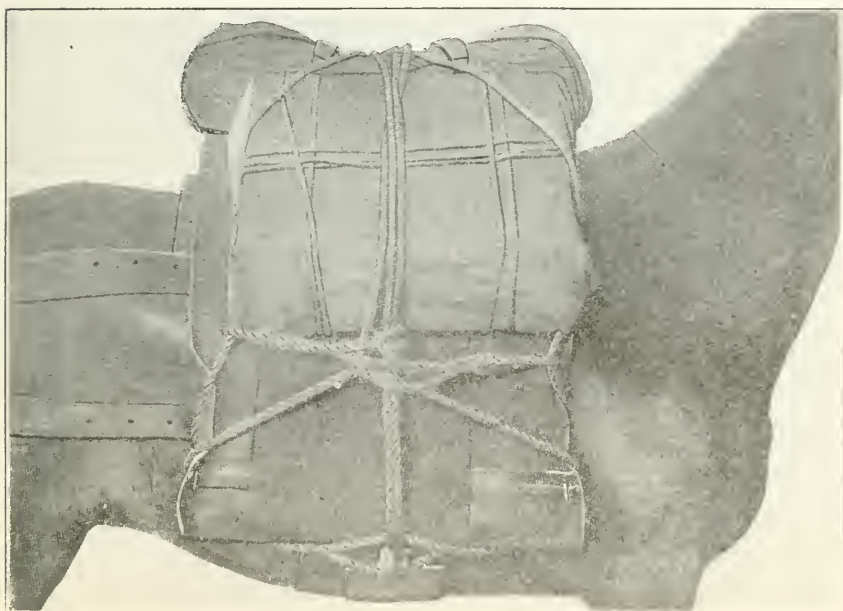
PACKED SADDLE, FULL EQUIPMENT (NEAR SIDE.)



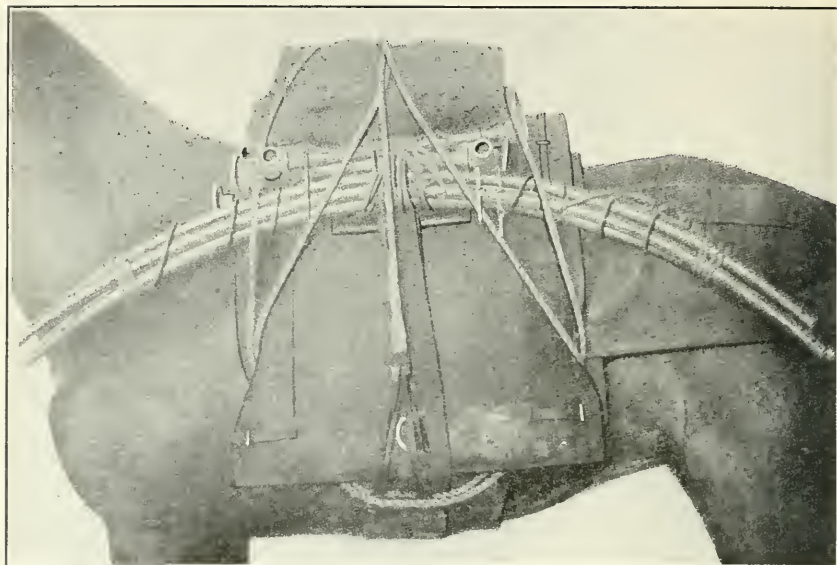




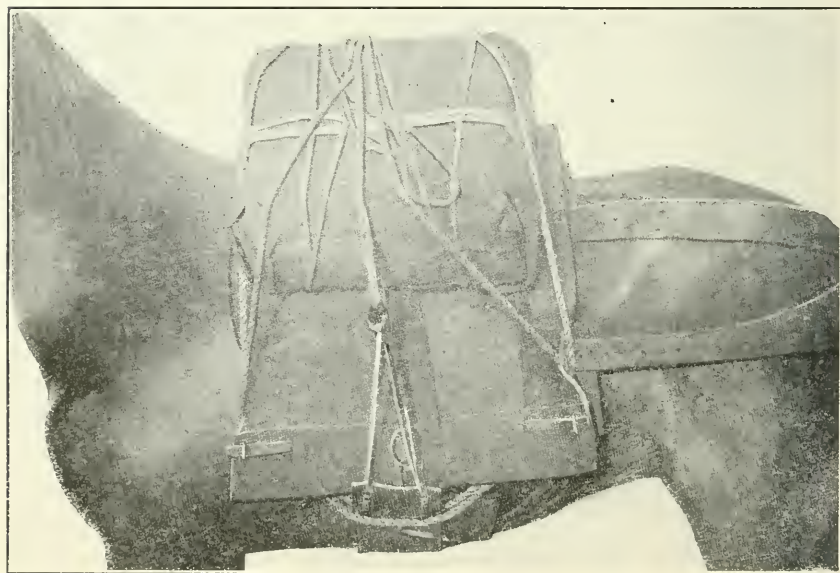
TROOP PACK, USUAL CARGO (NEAR SIDE).



TROOP PACK, USUAL CARGO (OFF SIDE).



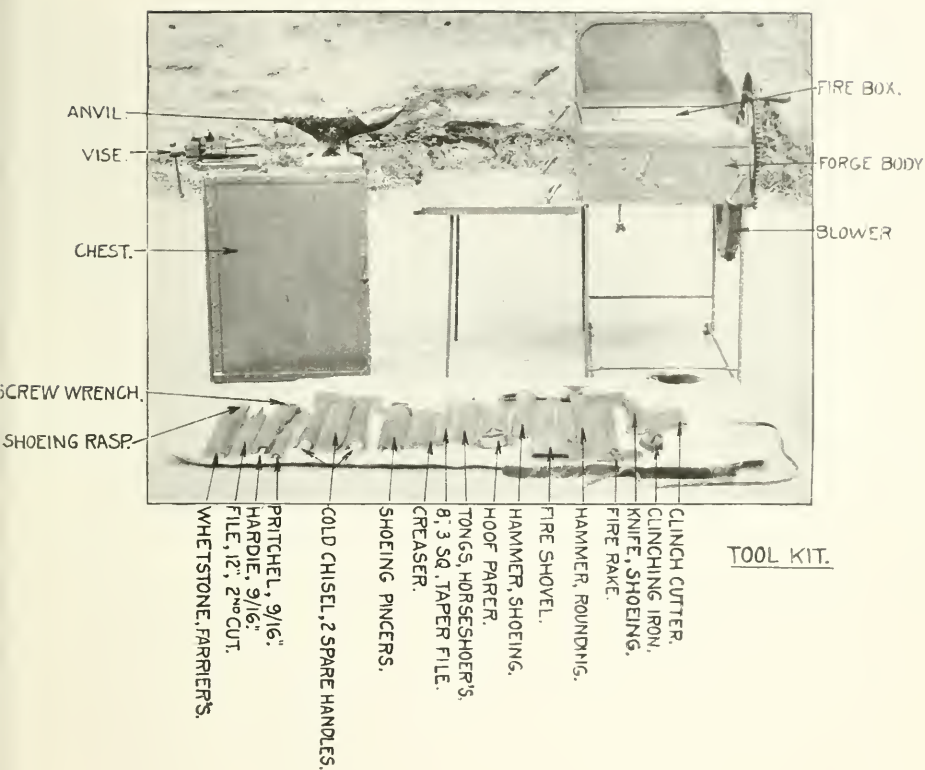
TROOP PACK, WITH WATER TANK AS NEAR CARGO.

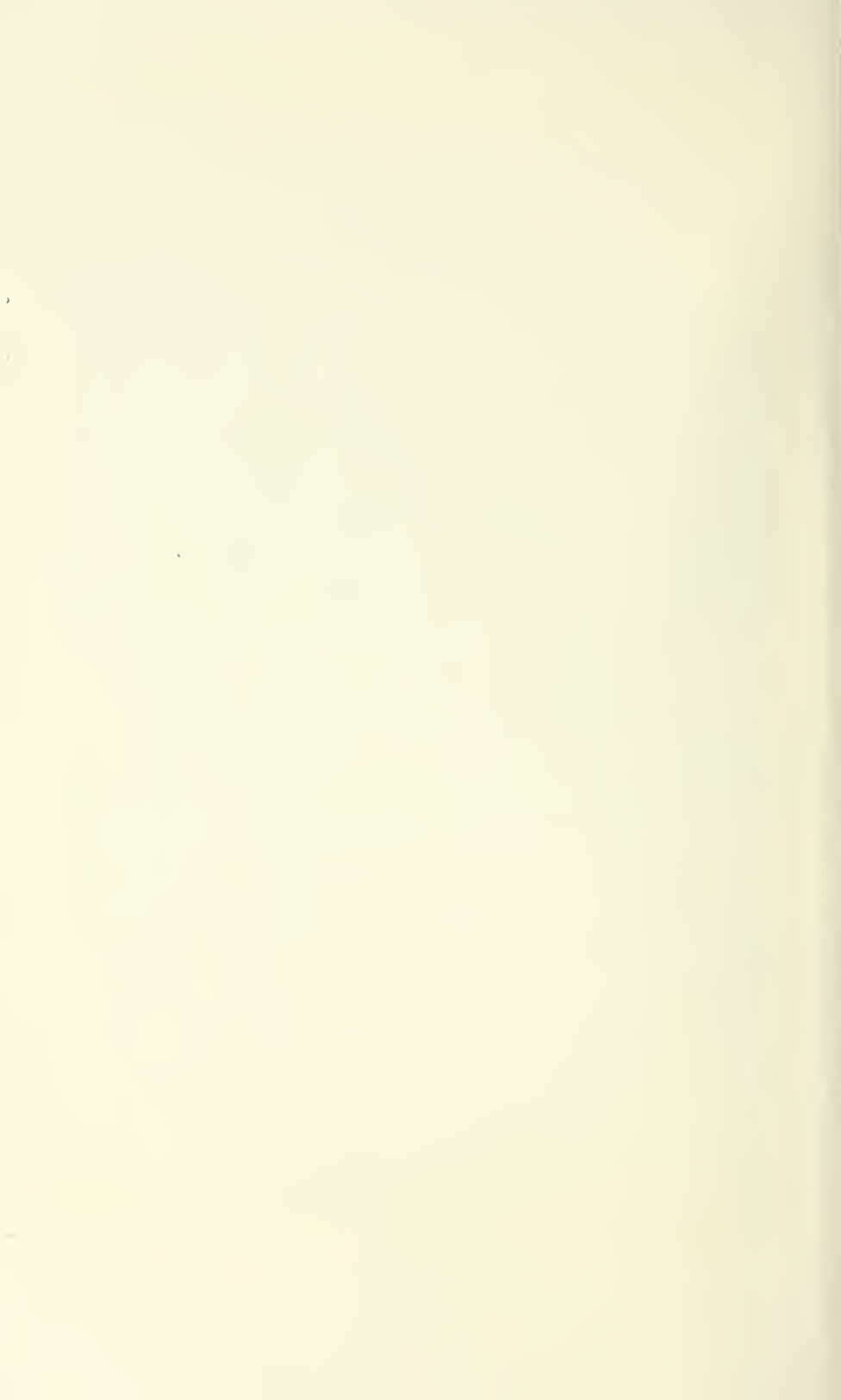


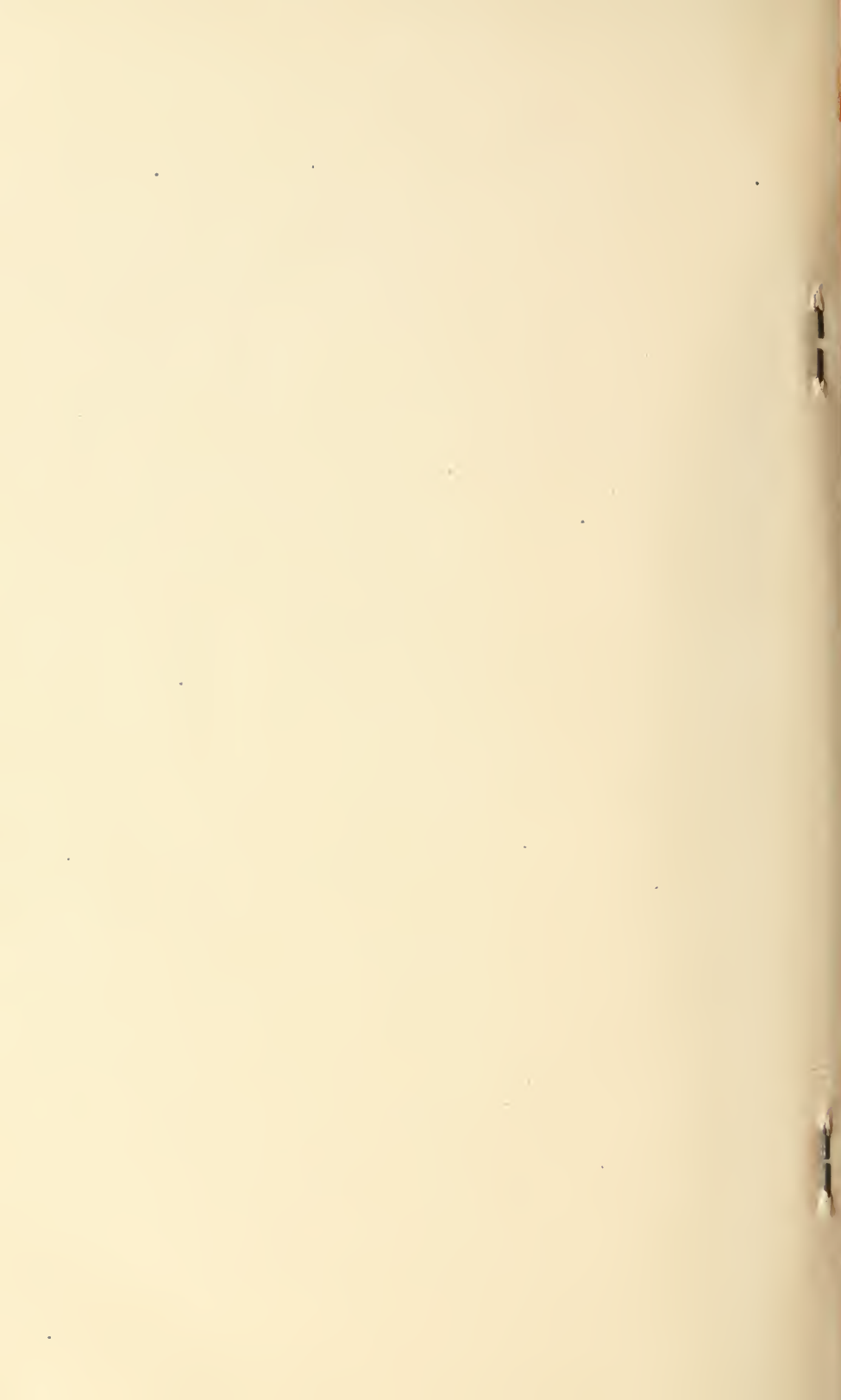
TROOP PACK, WITH COOKING UTENSILS AS NEAR CARGO.

TOOL CHEST,
MODEL OF 1910.

SCHALLER FORGE,
MODEL OF 1910.







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